TEXTILE TECHNOLOGY DIGEST

VOLUME 18 JANUARY 1961 NUMBER 1

ABSTRACTS

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Natural fibers A1

PHYSICAL PROPERTIES OF WOOL FIBERS. PART 1. FRICTIONAL PROPERTIES. Wool Sci. Rev. No. 18: 38-50 (Oct. 1960).
The application of modern theories of friction to the differential friction effect (D. F. E.) in wool fibers and the importance of D. F. E. in processing and fabric properties are discussed. 8 refs. (1)

WOOL AS A FIBER IN DYEING AND FINISHING. A. B. D. Cassie (Wool Inds. Research Assoc.). J. Soc. Dyers Colourists 76: 617-623 (Nov. 1960).
The importance of the setting properties of wool fibers on packages is discussed in relation to cloth manufacture and shrinkage in finishing. Some remarkable changes that come about in low-temperature dyeing of wool when fibers are cleaned with various solvents are described. (2)

DESIGNING A PUBLIC WAREHOUSE FOR STORING FLAT BALES OF COTTON. C. D. Bolt and H. D. Bouland. U.S. Agri. Mktg. Serv., Washington 25, D.C. Oct. 1959. 42 p. Mktg. research report no. 355. Available from Superintendent of Documents, Washington 25, D.C. $1.00.
16 refs. (3)

EFFECTS OF TANDEM LINT CLEANING ON BALE VALUES, WEIGHT CHANGES, AND PRICES RECEIVED BY FARMERS. U.S. Agri. Mktg. Serv., Washington 25, D.C. May 1960. 20 p. Mktg. research report no. 397. (4)

VARIATIONS IN THE TECHNOLOGICAL CHARACTERISTICS OF SOME COTTON VARIETIES CULTIVATED IN THE UNITED STATES. J. Gutknecht. Coton Fibres Trop. 14, No. 3: 395-427 (1959). In French. Through BCIRA 40: 3679 (1960).
Variations of the main technological cotton characteristics are studied with a view to detecting the fluctuations due to environment and ascertaining the extent of these fluctuations within the cotton belt in the south of the United States. The study comprises: development of the staple length and grade of the commercial Upland cottons (1928-1958 crops); variations in the fiber properties of 5 cotton varieties cultivated since 1952; the technological behavior of 2 main American varieties cultivated in 10 representative centers; comparison of the characteristics of Deltapine 15 in 1956-1957; effect of environment on the yield and ginning of some commercial varieties (tests carried out in Mississippi and Arkansas). (5)

Manmade fibers A2

GLASS: OLDEST AND THE NEWEST FIBER. H. V. Blake. Fibres and Plastics 21: 327-328, 341 (Nov. 1960).
Properties, manufacture, and applications of glass fiber materials are reviewed. (6)

THERMAL SHRINKAGE OF POLYETHYLENE OXYBENZOATE FIBERS. M. Korematsu, H. Masuda, and S. Kuriyama. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 633-638 (1960). In Japanese (English summary). Through BCIRA 40: 3691 (1960).
The shrinking tendency is greater than for nylon 6 and polyethylene terephthalate fibers. Polyethylene oxybenzoate fibers can be stabilized by heat treatment at fixed length. Crystallization and changes of molecular configuration are discussed. (7)

STRESS-INDUCED FISSURES IN VISCOSE FIBERS. J. E. Ford (Shirley Inst.). J. Textile Inst. 51: T429-T434 (Oct. 1960).
Modern, commercially-produced viscose rayon varies appreciably in its susceptibility to the production of transversely oriented, microscopic fissures, according to the general fiber structure and mode of production. This paper gives the results of a comparison of different rayons, and suggests that fissures and the related delustering are sometimes responsible for the defective appearance of fabrics. 8 refs. (8)

MANUFACTURE AND DYEING OF POLYAMIDE FIBERS. PART 1. R. S. Asquith and G. E. Styan. Fibres and Plastics 21: 323-326 (Nov. 1960).
Historical aspects of polyamide fibers manufacture are reviewed, together with research and development and production methods. 4 refs. (9)

SPARKLING NYLON. P. Harris. Nylon Outlook 3, No. 2: 30-33 (Autumn 1960).
By choosing a cross-sectional shape which reflects most of the incident light in one direction only, e.g. a triangular cross-section, nylon filaments with sparkling characteristics can be produced. The optical mechanism involved is explained by means of diagrams. (10)

MODIFIED SECTION SYNTHETIC FIBERS. K. Greenwood. Textile Recorder 78: 62-63, 113 (Nov. 1960).
This article outlines the development, properties, and characteristics of modified section synthetic fibers and the yarns and fabrics produced from them which were discussed in a paper delivered at the symposium on bulked yarns held recently in Prague. The paper ("Holl and Solid Profile Synthetic Fibers" by F. Bolland) described extensive investigations which were carried out at the Research Institute for Manmade Fibres at Rudolfstadt-Schwarza in Eastern Germany. (11)

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MANMADE FIBERS: SOME RECENT DEVELOPMENTS. PART 1. A. J. Hall. Fibres and Plastics 21: 330-333, 341 (Nov. 1960).
Among the developments discussed are: modified acetate fibers possessing wool-dyeing properties; high bulk acetate fibers with annular cross-section; triacetate fibers resistant to gas and O-fading and to heat discoloration; and acrylic fibers modified with polyvinylpyrrolidone for improved dyeability. 6 refs. (12)

FIBER FACTS, 1961. Am. Viscose Corp., 1617 Pennsylvania Blvd, Phila. 3, Pa. 1960. 71 p. Free.
Includes a "Guide to Man-made Fibers" along with an expanded textile glossary, current data on Avisco personnel and products, and an explanation of the Avisco Integrity Tag Program. (13)

EFFECT OF METHYL KETONES ON THE CRYSTALLIZATION OF POLYETHYLENE TEREPHTHALATE. W. R. Moore, D. O. Richards, and R. P. Sheldon (Bradford Inst. Technol.). (Letter to the editor). J. Textile Inst. 51: T438-T439 (Oct. 1960). (14)

YARN PRODUCTION B

STRUCTURE AND MANAGEMENT ORGANIZATION OF A MODERN COTTON SPINNING MILL. J. Decker. Deut. Textiltech. 10, No. 8: 387-390 (1960). In German. Through BCIRA 40: 3924 (1960).
A description is given of one of the most modern West German cotton mills which started to operate in 1958 with about 26,000 spindles. In addition to technological data, reference is also made to the labor requirement, spinning plan, cleaning of the mill, and laboratory equipment. (15)

SPINNING HIGH BULK YARNS. V. Saxl (Stellamcor, Inc.). Textil-Praxis (English ed.) No. 3: 97-101 (Oct. 1960).
High bulk yarn processing on the American, Bradford, and French systems is described. (16)

DEVELOPMENTS IN SPINNING MACHINERY. R. Cheetham. Textile Weekly 60 (2): 1245-1246 (Nov. 25, 1960); 1306-1312 (Dec. 2, 1960).
In order to appreciate the progress made in the past 10 years in spinning efficiency and economy, the type and amount of equipment required to do the job 10 years ago are compared with that required today. (17)

MILL EXPERIENCE WITH THE PERMO CONDENSER SPINNING SYSTEM. H. Shenton (Moss Bridge Mill Ltd). Textile Merc. 143: 719-721 (Nov. 25, 1960).
Operations involved in mule, ring, and Permo systems are compared, and the economics of the latter are discussed. (18)

PROCESSING AIDS FOR SYNTHETIC FIBERS. A. E. Henshall (Imp. Chem. Inds. Ltd). Fibres and Plastics 21: 329-330 (Nov. 1960).
Typical processing aids and their function and method of application are tabulated. (19)

TWEEDALES & SMALLEY SLIVER TO YARN SPINNING SYSTEM IN MILL PRACTICE. G. D. Chappell. Textile Merc. 143: 583-591 (Oct. 28, 1960).
Production, quality, and processing costs are compared for the sliver to yarn system and conventional spinning systems. (20)

BULKED YARN MANUFACTURE IN CZECHOSLOVAKIA. PART 1. G. R. Wray. Textile Recorder 78: 45-47 (Dec. 1960).
This critical examination of yarn bulking techniques currently in use in Czechoslovakia includes descriptions of Tvasil false-twist crimping machinery, Evalon machinery for edge-crimping, and the Anilon stuffer box machine. (21)

INSTRUMENTATION AS AN AID IN QUALITY CONTROL. R. N. Aldrich-Smith. Nylon Outlook 3, No. 2: 22-29 (Autumn 1960).
The important part that instrumentation plays in the control of yarn quality is illustrated by a few examples of special purpose equipment designed and developed within B. N. S., together with a brief review of some of the lesser known commercially available instruments in routine use. (22)

SOFTENING EFFECT OF OILING AGENTS. W. Tsuji, M. Imai, K. Matsuzaki, and A. Matsumoto. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 617-621 (1960). In Japanese (English summary). Through BCIRA 40: 3736 (1960).
The mechanism of softening is discussed, based on the evaluation of torsional rigidity (a formula is derived), coefficient of friction, and Young's modulus. The torsional rigidity of raw silk is reduced markedly by treatment with some agents; a similar result, though in less degree, is obtained with nylon 6 (Amilan) monofilament. The torsional rigidity of multifilament viscose rayon yarn decreases also, but this effect is attributable to decrease of coefficient of friction since the torsional rigidity of viscose monofilament is unaffected by oiling agents. (23)

INVESTIGATIONS INTO THE PROCESSING DIFFICULTIES OF POLYVINYL CHLORIDE FIBERS IN WORSTED SPINNING. L. Rudolph. Textil-Praxis 15, No. 8: 798-801 (1960). In German. Through BCIRA 40: 3715 (1960).
The softening of the fiber surface observed during drafting of polyvinyl chloride fibers was found to be due not to heat but to pressure points caused by friction between the delivery rollers and the accumulated fiber masses. Such phenomena do not occur if fiber adhesion is within normal limits. (24)

CAUSES OF EXCESSIVE SIZE VARIATION. N. L. Enrick (Inst. Textile Technol.). Textile Inds. 124: 72-76 (Dec. 1960).
An illustration of the determination of size variations in a textile mill, from carding through spinning, showing within-machine and room-overall variation coefficients, and comparing actual against normally expected variations. Lists of causes of excessive variation are provided for picking through spinning. 3 refs. (25)

PROCESSING OF LOW COUNT VISCOSE FIBER IN A BLEND WITH COTTON ON COTTON EQUIPMENT. G. A. Terent'ev. Tekhnol. Tekstil. Prom. No. 3 (16): 73-85 (1960). In Russian. Through BCIRA 40: 3929 (1960).
The study was carried out to ascertain the conditions for most effective mixing of cotton and low denier viscose staple fiber, to find a suitable percentage ratio of cotton and viscose staple fiber for obtaining low and medium yarn counts, and to investigate the effects of the quantity of viscose staple fiber in the mixture, twist and draft on the physicomechanical properties of the yarn. The results are discussed and tabulated. (26)

SPINNING FROM DRAWFRAME SLIVER. N. Hooper (Tweedales & Smalley Ltd). Textile Recorder 78: 42-44 (Dec. 1960). Textile Merc. 143: 618-620, 662-663, 676 (1960).
A summary of the latest information available on the Tweedales and Smalley sliver-to-yarn spinning system. (27)

MODIFIED CONTINUOUS-FILAMENT YARNS. D. Finlayson. (Letter to the editor). J. Textile Inst. 51: P611-P614 (Oct. 1960).
The basic patents which led to the modern practice of crimping yarns by false twisting are cited to amplify information given in two previous letters on this subject. (See abstrs. 2112/59 and 3701/59). (28)

SHORT VERSUS LONG PROCESSING. E. Hobson. Melliand 41, No. 4: 232, 234 (1960).
The importance of drafting conditions at the drawframe and roving frame in producing uniform manmade staple fiber yarn by an abridged system is emphasized. (29)

MIXING AND PROCESSING OF POLYESTER FIBERS WITH WOOL ON WORSTED SPINNING SYSTEMS. R. Joźwicki and T. Trzebiński. Prace Inst. Wlok. 10, No. 1 (33): 25-47 (1960). In Polish. Through BCIRA 40: 3930 (1960). (30)

Opening, picking, fiber preparation B1

NEW WAY TO CONTROL NEPS IN COTTON. N. N. Nolen. Textile World 110: 58-59 (Dec. 1960).
The adjustment of cotton fiber cleaning speed in accordance with fiber fineness can reduce nep formation. (31)

AUTO-PNEUMATIC LAP END. Platt Bros. Ltd. Platts Bull. 9, No. 11: 350-353 (1960).
The new picker lap end incorporates both automatic doffing and pneumatic loading and may be fitted to any Platt pickers made since 1945. Features, operation, and advantages are described. (32)

AIR-STREAM CLEANER. Platt Bros. Ltd. Platts Bull. 9, No. 11: 341-349 (1960).
The air-stream cleaner system was developed from a machine originally designed by the Lummus Cotton Gin Co. for use in their ginning equipment. Known as the Super Jet Cleaner, it separated seed and lint by purely aerodynamic action. A beater part has been developed to feed the air jet section and has been linked to the air jet part to provide airstream cleaning at both sections and the complete machine has proved to be very efficient for wide ranges of cotton and staple length. The features, action, and advantages of the system are described and typical results are tabulated. (33)

Carding and combing B2

MAF. 3 AND MAF. 4 AUTOMATIC FEEDERS FOR WOOL AND WASTE CARD SETS. Platts Bull. 9, No. 11: 369-372 (1960).
The latest design Platt automatic feeders can be equipped with two new mechanisms--trickle feed and a self-emptying hopper--which assist substantially in providing a regular supply of material to the card. The MAF. 3 and MAF. 4 feeders differ in that the MAF. 4 incorporates the self-emptying hopper, while the MAF. 3 does not. Both can be supplied with or without trickle feed. The mechanisms are described. (34)

COTTON CARDING. P. M. Strang. Am. Textile Reptr. 74: 71-80 (Dec. 15, 1960).
The author uses the analytical approach to an existing machine, the revolving top flat cotton card, and discusses the important interactions on the basis of modern engineering concepts in order to lay a foundation for improvement in design and function. 19 refs. Appendix: Air flow in a lickerin without feed, by B. G. Rightmire, p. 81-82. 4 refs. (35)

SUMMARY OF FOURTH INTERIM REPORT OF THE JOINT ADVISORY COMMITTEE OF THE COTTON INDUSTRY ON DUST IN CARD ROOMS. Textile Weekly 60 (2): 1067-1071 (Nov. 4, 1960).
The report deals with mill trials on the suitability of the Selrow device (D. Howorth & Son Ltd) for extracting dust from carding engines. It consists basically of three sets of 7/8 in. diameter tubes connected to exhaust ducting, which are arranged inside enclosures designed to deflect and contain the dust liberated in the process. The enclosures are at the takerin end of the card, over the doffer cylinder and calender rollers and over the flats brush. The open ends of the tubes are so placed as to provide suction points across the width of the card. There are seven tubes in the set at the takerin, five at the doffer, and three at the flats brush. The device is designed to connect to exhaust trunking. As a result of the tests it is concluded that the device be recommended as practical. (36)

TEFAMA LOCKING DEVICE FOR SAFETY COVERS ON CARDING WILLOWS. K. Müller. Melliand 41, No. 4: 236, 238 (1960).
The necessity and functions of safety hoods on breaker cards to prevent accidents are discussed. (37)

WATER SOLUBLE LUBRICANTS FOR WOOLEN CARDING. S. Dobson. Textile Mfr. 86: 439-440 (Nov. 1960).
The Oxitex series of synthetic, water-soluble fiber lubricants are polyoxyalkylene derivatives and are finding particular application as lubricants to facilitate carding and spinning on the woolen system. Their properties and use in mill trials are described. (38)

DOFFING OF THE CARD WEB BY THE COMB OF THE CARDING MACHINE. T. M. Glasionova and A. M. Romanova. Tekhnol. Tekstil. Prom. No. 3 (16): 57-65 (1960). In Russian. Through BCIRA 40: 3922 (1960).
High-speed cinephotography was used under various working conditions to study the process of doffing. The results are discussed, with special reference to the factors affecting the performance of the doffer comb. (39)

HOW TO MAKE SURE YOU'RE GETTING THE MOST FROM YOUR CARDING AND DRAWING CAN SIZES. Textile Bull. 86: 56 (Dec. 1960).
In order to attain maximum efficiency in carding and drawing, the number of coils per layer in each can should be the same. Calculations for determining the correct coils per layer according to the gearing system used are given. (40)

Drawing and roving B3

HOW TO REPAIR FALLER BARS. PART 2. PLASTIC-BONDED FALLER BARS. Textile Inds. 124: 83-87 (Dec. 1960).
Word and picture procedure for repairing plastic-bonded faller bars in pin drafters. (41)

MOVEMENT OF FIBROUS MATERIAL IN THE FREE DRAFTING ZONE. E. A. Gal'perin. Tekhnol. Tekstil. Prom. No. 2(15): 61-67; No. 3: 66-72 (1960). In Russian. Through BCIRA 40: 3706 (1960).
General equations are derived for the fiber movement on screw-gill drawframes (with simultaneous twisting) and during progressive drafting (without twisting), and means are discussed for the theoretical and experimental study of the stability of this movement. This makes it possible to explain the dependence of the irregularity of the product upon the working conditions and construction of the equipment, to evaluate the aspects of using twisting/drafting devices at high velocities, and to elucidate the effect of automatic equalization during the drafting process. (42)

SACO-LOWELL OIL-LESS DRAFTING CHANGEOVER. Saco-Lowell Shops. Am. Textile Reptr. 74: 16, 35 (Nov. 24, 1960).
Features and advantages of the conversion assemblies for Shaw spinning and FS-2 and FS-3 roving frames are described. (43)

FUNDAMENTAL STUDIES ON THE AUTOMATIC CONTROL OF SLIVER THICKNESS. PART 1. DYNAMIC CHARACTERS OF ROLLER DRAFTING AS A CONTROL SYSTEM. M. Ihara, H. Akami, and S. Takagi. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 643-647 (1960). In Japanese (English summary). Through BCIRA 40: 3707 (1960).
In controlling short-period variation, it is impossible to ignore the influence of fiber length. A differential equation for unsteady roller drafting, and transfer functions, are derived. (44)

METHOD OF CALCULATING FOR ADJUSTING COTTON FLYER FRAMES. G. Merenyi. Magyar Textiltech. 11, No. 9: 341-344 (1959). In Hungarian. Through BCIRA 40: 3709 (1960).
The single speedframe remaining in shortened spinning systems requires more attention and more accurate setting than the two or three frames formerly used. The method of calculation described comprises the equation of the differential gear, the positions of the cone belt at initial and final bobbin diameters, adjustment of the bobbin rail motion, computation of the number of teeth in the ratchet wheel, and formulas for draft, twist, and production. (45)

HIGH SPEED LARGE PACKAGE SPEED FRAME. Platt Bros. Ltd. Textile Recorder 78: 115-117 (Nov. 1960).
The MS3 large package speed frame produces a bobbin 14 in. lift by 7 in. diameter holding up to 6 lb of material at speeds of 1,000-1,200 rpm. The incorporation of the drive to both the spindles and the bobbins into the same box at the foot of the machine has permitted the conventional swing mechanism to be eliminated. Special flyers are used to withstand the considerable centrifugal force produced at the high speeds for which the machine is designed. The drafting system is the recently developed 3 over 3 single zone drafting arrangement. Other features are described. (46)

Spinning, winding, twisting B4

ELASTIC INDIVIDUAL DRIVE FOR RING SPINNING FRAME SPINDLES AND ITS ADVANTAGES. G. Porsche. Melliand 41, No. 4: 234, 236 (1960).
The advantages of the elastic single-spindle drive as compared with the conventional four-spindle drive are discussed. (47)

CEMENTED COTTON SPINDLE TAPES FOR RING SPINNING MACHINES. H. Sachs. Textil-Praxis (English ed.) No. 3: 102-103 (Oct. 1960).
The preparation and advantages of Effectus cemented tapes are noted. (48)

TWIN-CLUTCH SPINDLE FOR RING TWISTING FRAMES. Prince-Smith & Stells Ltd. Textile Recorder 78: 69 (Dec. 1960). (49)

CONVERSION OF A FOUR-ROLLER DRAFTING MECHANISM ON COTTON SPINNING MACHINES TO A HIGH-DRAFT SYSTEM. J. Abramowicz. Prace Inst. Wlok. 10, No. 1(33): 1-23 (1960). In Polish. Through BCIRA 40: 3925 (1960).
The possibility of increasing the draft on the 4-roller spinning machine drafting system is investigated. The system was converted in a simple and inexpensive manner, and it was found that the use of the drafting system PX9-1 enables a 4-fold draft increase on the 4-roller cotton spinning machine. Construction and mechanism of the drafting mechanism are explained. (50)

IS THERE AN OPTIMUM BOBBIN SIZE FOR RING SPINNING MACHINES? Centre de Recherches des Industries Textiles de Rouen. Bull. Inst. Textile France No. 87: 69-81 (Mar./Apr. 1960). In French. Through BCIRA 40: 3927 (1960).
Purely technical, economical and technical, and purely economical factors are analyzed with a view to determining the optimum bobbin size as a function of yarn count and spinning conditions. The problem is shown to be very complicated, but it appears that the choice of the bobbin size depends mainly upon economical factors which vary from one spinning mill to another. (51)

INVESTIGATIONS INTO THE PERFORMANCE OF RING TRAVELERS ON SPINNING RINGS OF COTTON RING SPINNING MACHINES. O. König and H. Herdtle. Textil-Praxis 15, No. 8: 779-783; No. 9: 899-901 (1960). In German. Through BCIRA 40: 3714 (1960).
In continuation of the previous articles (abstr. 4301/60) the authors discuss the measurement of the friction coefficient between traveler and spinning ring under normal spinning conditions and deal with the experimental proof of the lubricating film present on the ring path. (52)

WASTE RECOVERY FROM BOBBINS. Cezoma Textile Machy. Ltd. Textile Weekly 60(2): 1253 (Nov. 25, 1960). Textile Merc. 143: 730 (Nov. 25, 1960). (53)

STUDIES ON IMPROVEMENT OF CLEANING IN SPINNING MILLS. PART 10. CLEANING CHARACTERISTICS OF BLOW NOZZLE. Y. Niitsu, S. Fujimori, and K. Hosokawa. J. Textile Machy. Soc. Japan 13, No. 8: 582-588 (1960). In Japanese (English summary). Through BCIRA 40: 3716 (1960).
The characteristics of blow cleaning have been investigated by blowing sand and fly strata away from the floor. (54)

SPINDLES WITH PURE OIL-HYDRAULIC SHOCK ABSORPTION. G. Wendel. Textil-Praxis (English ed.) No. 3: 108-111 (Oct. 1960).
Various types of bearing tubes (developed by SKF Kugellagerfabriken) are described and illustrated. It is claimed that spindles for speeds up to 20,000 rev/min can be made, and that ring spinning efficiency is now dependent on traveler speed. (55)

STUDIES ON THE WOOLEN MULE. PART 2. S. Kurosaki and F. Konda. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 648-652 (1960). In Japanese (English summary). Through BCIRA 40: 3713 (1960).
The degree and profile of tension, generated under a variety of spinning conditions, were investigated. (56)

TWIST CONTROL ON MULES. K. Robak and J. Schmalz. Magyar Textiltech. 11, No. 7: 264-269 (1959). In Hungarian. Through BCIRA 40: 3712 (1960).
The speed of the carriage changes most evenly when the back-shaft scroll is rotated through 90°. It is affected by vibration during the outward run and the influence of bands of different materials was investigated; those made from Perlon were best. The effect of twist multiplier (twist rate) on twist irregularity was also investigated; there is an optimum--0.8-0.9 turns/cm for the blends examined. (57)

EXAMINATION OF THE TEMPERATURE CONDITIONS OF CONTACT AND RADIATION HEATING ELEMENTS IN FALSE-TWIST TWISTING MACHINES. W. Wegener and G. Brehm. Textil-Praxis 15, No. 8: 801-810; No. 9: 891-896 (1960). In German. Through BCIRA 40: 3718 (1960).
Heating elements of the contact systems are compared as regards their temperature behavior with heating elements of the radiation system to determine their respective temperature distribution in the longitudinal and transverse direction and its effect on the yarns fixed in the false-twist twisting machine. To avoid condensation of the filament evaporating at the lower part of the heating element, and to obtain a uniform, constant yarn quality, the construction of heating elements so that the maximum temperature occurs at the thread exit is recommended. (58)

FALSE TWISTING MACHINES IN JAPAN. K. Kawasaki. J. Textile Machy. Soc. Japan 13, No. 8: 589-594 (1960). In Japanese. Through BCIRA 40: 3717 (1960). (59)

Yarns B5

PROCESSING TECHNOLOGY OF MIRLAN BULK YARN. S. Kyselak. Textil 15, No. 7: 258-259 (1960). In Czech. Through BCIRA 40: 3933 (1960). (60)

PRAGUE BULKED YARN SYMPOSIUM. PART 2. MIRLAN TEXTURING PROCESS. Skinner's Silk & Rayon Record 34: 1085-1087 (Nov. 1960).
The steps in the development of the Mark I, Mark II, and Mark III air texturing systems for bulk yarns are described. (61)

PRODUCING FALSE-TWIST STRETCH YARNS. PART 1b. YARN CHARACTERISTICS. M. F. Burnip and J. W. S. Hearle. Man-Made Textiles 37: 54-57 (Nov. 1960).
The effects of temperature, tension, and twist variations during processing on bulking and stretch characteristics are discussed. (62)

WEATHERING OF TEXTILE YARNS. M. Fels. J. Textile Inst. 51: P648-P656 (Nov. 1960).
Results of weathering trials on Orlon, nylon, Terylene, viscose, acetate, triacetate, cotton, and wool yarns are presented. (63)

TALKING TECHNICALLY ABOUT TYCORA. Hosiery Trade J. 67: 110-111 (Nov. 1960).
The author discusses BP 838 796 recently issued to the Textured Yarn Co. Since this is the first patent which he can trace as being issued to the American company, it is suggested that it may be that this will be the forerunner of a series of patent issues which will reveal more about the principles underlying the production of Tycora yarns. A most interesting feature of the invention is that it refers to a cold stuffer-crimping technique applied to a yarn which previously has been crimped. (64)

REMARKS ON THE PAPER OF T. A. FROLOVA ON THE "STRUCTURAL IRREGULARITY OF COTTON YARN AND ROVING". V. Zhurek. Tekhnol. Tekstil. Prom. No. 3(16): 158-159 (1960). In Russian. Through BCIRA 40: 3923 (1960).
Referring to the above paper (abstr. 1376/60), the author confirms the applicability of the Martindale formula also to cotton yarn, and shows that the characteristic curve for the theoretical number of fiber slippages is in agreement with the experimental one. (65)

HEAVY DENIER DRAWTWISTER HDT.1. Platt Bros. Ltd. Platts Bull. 9, No. 11: 361-368 (1960).
Developed especially to meet an increasing demand for heavier, high tenacity, polyamide yarns, and particularly tire yarns, the HDT.1 drawtwister is a double-sided machine designed primarily for hot-stretching these yarns. It is mechanically capable of producing drawn yarns of up to 2,000 denier. Its general design and features are detailed. (66)

VARIATION OF STRESS-STRAIN PROPERTIES OF COTTON TIRE CORDS AS A FUNCTION OF TWIST. G. Nandory. Magyar Textiltech. 11, No. 7: 279-28 (1959). In Hungarian. Through BCIRA 40: 3831 (1960).
The effect of 290 twist combinations has been investigated on 1,200 cord samples. By increasing the twist multiplier, the breaking strength of the component yarns, as well as that of the final cord, decreases but elongation and fatigue resistance increase. In the initial stages of increasing component twists, the spatial arrangement of fibers becomes so favorable that they exercise increased resistance to tension, but this range of twist is not used since it produces cords with only a slight elongation. Cords in tires require a higher twist; with greater elongation their behavior is more rubber-like and there is better interaction with rubber. (67)

STRENGTH AND ELONGATION OF A SINGLE STAPLE YARN. PART 2. SINGLE STAPLE YARN COMPOSED OF UNIFORM FIBERS AND TWISTED BEYOND OPTIMUM TWIST. H. Kuma. J. Textile Machy. Soc. Japan 13, No. 8: 560-569 (1960). In Japanese (English summary). Through BCIRA 40: 3830 (1960).
Twist shrinkage, strength, and elongation were studied theoretically and formulas derived. (68)

FABRIC PRODUCTION C

Warping, slashing, yarn preparation C

ADIPRENE URETHANE RUBBER IN UNIFIL LOOM WINDERS. Leesona Corp. Am. Textile Reptr. 74: 17-18 (Nov. 24, 1960).
The advantages of Adiprene for the major moving parts of the Unifil winder are noted. (69)

COMPARATIVE STUDY ON THREAD CLEARERS. J. Stryckman and F. Campens. Ann. Sci. Textiles Belges No. 2: 94-106 (June 1960). In French. Through BCIRA 40: 3949 (1960).
Preliminary results are reported of a study made on the efficiency of various thread clearers (yarn-breakage frequency and weight of eliminated slubs). The main types of Belgian thread clearers were used for cotton yarns Na 30 (20 tex). (70)

COTTON YARN SIZING. G. De Backer. Ann. Sci. Textiles Belges No. 2: 57-76 (June 1960). In Dutch. Through BCIRA 40: 3952 (1960).
Tests carried out on a laboratory sizing machine, a description of which is given, are discussed, with special reference to the problems involved in sizing moisture contents of the starch, film, and sized yarn; desizing of the yarn in the laboratory; stretching of the yarn; squeezing pressure; covering of the squeezing rollers; drying rate; temperature of the bath; concentration of the bath and percentage starch fixed on the yarn; type of size and effect of additives; properties of the yarn itself). (71)

EFFECT OF THE WARPING CYLINDER ON THE THREAD-TENSION DISTRIBUTION IN THE WARP. R. Stöck. Melliand 41, No. 4: 240-244 (1960).
It is shown that, by appropriate application of the first warp layer and correct adjustment of the warping cone, any thread-tension differences occurring can be reduced so that, owing to the finer and more accurate adjustability of these machines, better warps can be produced than on those with nonadjustable (fixed) conical warping cylinders. (72)

SCHLAFHORST AUTOCONER. H. Klosges (W. Schlafhorst & Co.). Textile Merc. 143: 689-693 (Nov. 18, 1960). Textile Weekly 60 (2): 1072-1080 (Nov. 4, 1960).
The Schlafhorst Autoconer has one knotter carriage for every 10 spindles. The knotter carriage shuttles to and fro, stopping only when required, that is when the spinning or twisting cop is empty, or when a yarn break occurs. This arrangement causes the time that each winding head has to wait for attendance to be minimized and yet all the advantages of an automatic winder, with a knotter to every winding head, are fully maintained, but with much less mechanical effort. Features and operation of the machine are detailed. (73)

CONVERTING SIZING MACHINES TO GAS HEATING. V. M. Korolev, R. V. Shingarev, and Y. M. Vatagin. Tekhnol. Tekstil. Prom. No. 3 (16): 86-91 (1960). In Russian. Through BCIRA 40: 3951 (1960).
An experimental sizing machine (using gas for heating both the size and the drying cylinders) is described. The moisture-content regulator of the warp acts thereby not on the drive but on the gas valve, increasing or decreasing the gas supply, i.e. changing the temperature of the drying medium at constant machine velocity. (74)

THEORY OF THREAD TENSIONERS. N. P. Isakov. Tekhnol. Tekstil. Prom. No. 3 (16): 92-95 (1960). In Russian. Through BCIRA 40: 3950 (1960).
Equations are derived expressing the forces acting on the thread during winding. The purpose of this theoretical study was to ascertain the principles on which the construction of a thread tensioner should be based. Such a device should operate, independently of the velocity of the moving thread, according to the principle: $T = T_0 + T_1$ where T_1 is the additional tension produced independently of the velocity, by spring pressure and magnetic attraction forces. (75)

SIZING WITH ETHER-TYPE STARCH PRODUCTS. M. Zilahi and K. Ramaszeder. Magyar Textiltech. 11, No. 9: 368-370 (1959). In Hungarian. Through BCIRA 40: 3735 (1960).
Solvitose H4 and starch were compared. The particle size of Solvitose is 840 sq microns compared with 1980 sq microns for native starch. The breaking strength of Solvitose films is twice that of starch. The mechanical properties of yarns and roving sized with Solvitose are broadly equivalent to those of yarns and rovings sized with starch, except for wear resistance. Etherified starch products have an important advantage over starch sizes in respect to ease of removal in finishing. (76)

LINSEED OIL SIZING OF NYLON SLEEVES. P. Rochas and S. Pierret. Bull. Inst. Textile France No. 87: 91-95 (Mar./Apr. 1960). In French. Through BCIRA 40: 3953 (1960).
It is shown that sizing of nylon with linseed oil should be rejected, since it gives rise to yellowing of the nylon yarn which can be eliminated by no other treatment than chlorite and the latter is associated with the risk of decoloration of dyed yarns. Satisfactory results are obtained by using aqueous solutions based on acrylic acid. (77)

MODERN SIZING AND DESIZING METHODS. H. Jalke. Z. ges. Textil-Ind. 62, No. 18: 760-764 (1960). In German. Through BCIRA 40: 3969 (1960).
Water-soluble viscose staple fiber and cotton warp sizes (natural and synthetic) and their properties, as well as various types of amylases (malt, pancreas, bacterial), are discussed, various installations (Cascade, Benteler, Reactor) are described, and some sources of defects are pointed out. (78)

FRICTIONAL BEHAVIOR OF NYLON, LAPPING THREADLINE GUIDES. B. A. Robinson (Du Pont of Canada Ltd). Can. Textile J. 77: 80-84 (Dec. 9, 1960).
Results of a recent study dealing with 12 factors affecting the frictional behavior of nylon, lapping threadline guides, including the guide material and surface roughness, yarn speed, number of filaments per threadline, the delusterant content, and the filament size. 5 refs. (79)

Weaving C2

FOUR-COLOR SULZER WEAVING MACHINE. G. Hohloch. Textil-Praxis (English ed.) No. 3: 120-123 (Oct. 1960).
Features and operation of the Sulzer 85 VS 10 E gripper shuttle loom are described. (80)

MECHANICAL FEATURES IN THE DAUTRICOURT CIRCULAR LOOM. S. S. Samuels. Textile Mfr. 86: 441-443 (Nov. 1960).
The principles of circular weaving and the various mechanisms of the Dautricourt machine are explained. (81)

AUTOMATIC ELECTRICAL NAME-WEAVING DEVICE. H. Horak. Melliand 41, No. 4: 246-255 (1960).
The device for weaving names in warp direction (Apparatefabrik AG) consists of hooks moved by a relay-type control device in which the letters, symbols, and patterns are fitted in a predetermined weave and design, and function during weaving in the prescribed order. A device driven by the fluted roller of the loom ensures the correct arrangement of the name in the fabric. The device can operate in conjunction with a dobby or jacquard machine. (82)

AUTOMATIC CONTROL OF POSITIVE WARP LETOFF MECHANISM OF POWER LOOMS. PART 2. COMPARISON OF CONTROL CHARACTERISTICS OF A SPRING-LEVER SYSTEM AND THE USUAL WEIGHT-LEVER SYSTEM. H. Kamogawa, I. Murotsu, and S. Izumisawa. J. Textile Machy. Soc. Japan 13, No. 8: 555-559 (1960). In Japanese (English summary). Through BCIRA 40: 3746 (1960).
The weight-lever system is superior in frequency response only in the frequency range lower than 80 cpm. The automatic controller acts effectively in a range lower than 150 cpm for the weight-lever system and in a range lower than 500 cpm for the spring-lever system. The irregularity of the warp tension for the spring-lever system is reduced to 1/1.8 compared with that of the weight-lever system. (83)

HUDSON-ARGUS AUTOMATIC WARP STOP MOTIONS. Irvin Hudson Ltd. Textile Weekly 60 (2): 1134 (Nov. 11, 1960). (84)

IDEAS UNDERLYING WEAVING MACHINE PATENTS. PART 11. R. H. Rossmann. Textil-Praxis 15, No. 8: 824-825 (1960). In German. Through BCIRA 40: 3737 (1960).
A further 12 patents concerning electrical circular looms are critically reviewed. (85)

WIRA DROPPER PINNING MACHINE. Wool Inds. Research Assoc. Textile Weekly 60 (2): 1195-1196 (Nov. 18, 1960). Textile Merc. 143: 664-665 (Nov. 11, 1960). (86)

NOISE ABATEMENT IN WEAVING SHEDS. Sulzer Bros. Textile Merc. 143: 757-760, 773, 782 (Dec. 2, 1960).
Report of an investigation carried out by Sulzer Bros. in a cotton weaving shed equipped with Sulzer shuttleless weaving machines. (87)

STUDY ON JET LOOMS. PART 4. AIR VELOCITY IN THE SHED. M. Uno and T. Ishida. J. Textile Machy. Soc. Japan 13, No. 9: 657-661 (1960). In Japanese (English summary). Through BCIRA 40: 3955 (1960).
The air velocity was measured and is discussed in relation to the best condition for pneumatic weft propulsion. (88)

AUTOMATIC WARP STOP MOTION. Irvin Hudson Ltd. Textile Merc. 143: 661 (Nov. 11, 1960).
Features of the Hudson-Argus warp stop motion, available for all type looms, are noted. (89)

DAUTRICOURT CWM CIRCULAR LOOM. S. S. Samuels (Textile Inst.). Textile World 110: 51-53 (Dec. 1960). (90)

SOME STUDIES OF THE PROCESS OF AUTOMATIC BOBBIN CHANGE. P. V. Volkov and G. M. Filatov. Tekhnol. Tekstil. Prom. No. 3 (16): 96-101 (1960). In Russian. Through BCIRA 40: 3956 (1960). (91)

FULLY AUTOMATIC OPERATION IN WEAVING. H. Makowitzki. Textil-Praxis (English ed.) No. 3: 112-119 (Oct. 1960).
The principle, construction, and operation of the Fischer automatic ALV automatic pirn loading device are described. (92)

LOOMFIXER AND HIS JOB. PART 24. W. Westbrook. Textile Bull. 86: 61-62 (Dec. 1960).
Rules for setting the midget filling feeler are given. (93)

WEFT-INSERTING MECHANISMS. D. Bracke and O. Van Looken. Rev. Textilis 16, No. 6: 45-50; No. 7/8: 41-44, 64 (1960). In Dutch. Through BCIRA 40: 3742 (1960).
For previous part see abstr. 3922/60. (94)

CONSTRUCTIONAL DIFFERENCES IN TERRY JACQUARDS. T. Hargreaves. Textile Mfr. 86: 432-436 (Nov. 1960).
Explanation of the methods of operation and the card cutting and designing techniques in modern machines made by British, American, German, and Swiss firms. Constructional differences and special features are examined. (95)

ADVICE ON THE USE OF METALLIC YARNS FOR WEAVING. O. Schenzinger. Melliand 41, No. 4: 256, 258 (1960).
Pointers on pirning and weaving with Lurex weft yarns. (96)

SCIENTIST LOOKS AT THE WOOL INDUSTRY. PART 1. WEAVING. Wool Sci. Rev. No. 18: 5-17 (Oct. 1960).
The physical principles underlying the mechanics of cloth formation by the loom are discussed. 2 refs. (97)

TROUBLE SHOOTING TEMPLE ROLLS. V. Boyd. Textile Inds. 124: 69-71 (Dec. 1960).
Defects causing loss of accuracy and binding and methods of correcting them are described. (98)

GAGES IN DRAPER LOOM MAINTENANCE. PART 10. FINDING AND KEEPING ADEQUATE PICKING POWER. Textile Inds. 124: 95-96 (Dec. 1960). (99)

Knitting C2

AGILON D NYLON YARNS FOR THE MANUFACTURE OF WEFT KNITTED OUTER GARMENTS: A SUMMARY OF RECOMMENDATIONS. Brit. Nylon Spinners Ltd, Pontypool, Monmouthshire, England. Advance report no. 32. Nov. 1960. 6 p. (100)

COST AND ECONOMICS OF MACQUEEN TAILOR-KNITTING. Macqueen Cybernetics Ltd. Hosiery Trade J. 67: 140-142 (Dec. 1960). (101)

RECENT TRENDS IN TECHNOLOGY OF SWEATERS AND KNITTED YARDGOODS MANUFACTURE. C. Reichman. Can. Textile J. 77: 71-76 (Nov. 11, 1960).
Highlights of current trends in the following raw material and equipment areas: natural and synthetic fibers and yarns; circular sweater-strip and full-fashioned knitting equipment; and circular outerwear fabric machinery. (102)

STIBBE 3-CUT RIB JACQUARD SWEATER-STRIP UNIT. G. Stibbe & Co. Ltd. Knitted Outerwear Times 29: 7, 9 (Dec. 26, 1960).
Features and patterning possibilities of the Stibbe 553 machine are described. (103)

WARP KNITTING QUALITY CONTROL. W. E. Symonds (Kayser Bondor Ltd). Textile Weekly 60 (2): 1258, 1260 (Nov. 25, 1960). (104)

MAYER SUPRINT II INTERLOCK MACHINE. Mayer & Cie. Hosiery Trade J. 67: 128-130 (Dec. 1960).
The Mayer Suprint II is primarily intended for the manufacture of interlock garment lengths with draw thread welt and 1/1 rib border. Its special feature is that it offers scope for tucking on the dial, thus enabling garments to incorporate single piqué and other tuck interlock bodies, with 1/1 rib, half cardigan rib or fancy rib borders. Garments are also producible with patterned bourrelet interlock bodies and 1/1 rib or tuck rib borders, and piecegoods can be made in Swiss or French double piqué, eightlock and, by fitting special cams, with various horizontal raised effects. (105)

STATIONARY CYLINDER PIQUE YARDGOODS MACHINE. Scott & Williams Inc. Knitted Outerwear Times 29: 9, 17 (Dec. 26, 1960).
Features of the double jersey, which is equipped with pattern wheels for needle selection, are noted. (106)

AUTOMATIC FASHIONING ON MODEL FR COTTON'S MACHINE. J. B. Lancashire. Knitted Outerwear Times 29: 33, 35 (Dec. 19, 1960). Hosiery Trade J. 67: 123-124 (Dec. 1960).
The Bentley-Cotton straight bar bearded needle rib machine FR is suitable for knitting the main blanks of full-fashioned ribbed garments as well as wale-fashioned collars and rib trims incorporating doubled stitches. Its features, operation, and knitting potentials are described. (107)

PENELOP PURL KNITTING MACHINE. G. Lebocey & Cie. Hosiery Trade J. 67: 98-100 (Dec. 1960).
The Penelop method of purl knitting utilizes neither cylinder and dial nor co-axial needle cylinders and does not employ either bearded or latch needles. The 1/1 purl knitting is done by the transference of stitches, and the machine fulfils the essential condition governing this method by having two needles to knit each wale. Constructional details and operation of the machine are described. (108)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 67: 110-112 (Dec. 1960).
Among the developments discussed are the Oerlikon RIP-25-DF and 25-DFR twin-feed, and RIP-16-R single-feed seamless hosiery machines and a Swedish device for hanging takedown weights into fabrics on flat bar machines. (109)

DUBIED V-TYPE MACHINE DEVELOPMENTS REVIEWED. Dubied Machy. Co. Hosiery Trade J. 67: 98-100 (Nov. 1960). (110)

PRACTICAL HINTS FOR KNITTERS AND KNITTER-MECHANICS. T. L. Brown (Leicester School of Textiles). Hosiery Trade J. 67: 102-103 (Nov. 1960).
Recommended techniques for assembling and setting up new flat knitting machines are described. (111)

PRACTICAL HINTS FOR KNITTERS AND KNITTER MECHANICS. PART 2. Hosiery Trade J. 67: 119-121 (Dec. 1960).
Pointers on lubrication, belt care, and setting of stitch cams on flat knitting machines. (112)

KIRKLAND 30-FEEDER DOUBLE JERSEY MACHINE. A. Kirkland & Co. Ltd. Hosiery Trade J. 67: 146-147 (Nov. 1960).
A noteworthy feature of the machine is its patented measured yarn feed mechanism comprising at each feeder a feed wheel of truncated cone shape which is covered with special non-slip material, and a calibrated post for determining the exact level at which the yarn passes round the wheel. Other features are noted. (113)

SPANISH-BUILT V-TYPE FLAT KNITTING MACHINE. Hosiery Trade J. 67: 106-107 (Nov. 1960).
Features of the fully automatic, single-system, model TEA-J are briefly noted. (114)

EUROPEAN KNITTING DIARY. R. Innes. Hosiery Trade J. 67: 104-106 (Nov. 1960).
Among the topics discussed are: FPM automatic jacquard circular machine (C. Terrot Sohne); Durkopp 557-12 OGF double chainstitch automatic buttonholing machine; and Rimoldi 27-27 and 27-26 seaming machines. (115)

VERSATILITY OF 3-BAR AND 4-BAR MACHINES. Mayer & Cie. Textile Weekly 60 (2): 1255-1256 (Nov. 25, 1960).
Advantages and features of the Mayer Super Rapid 3-bar and 4-bar warp knitting machines are noted. (116)

FIGURE DESIGNING IN DOUBLE JERSEY FABRICS. J. B. Lancashire. Hosiery Trade J. 67: 86-92 (Dec. 1960). (117)

WARP KNITTING WITH THREE GUIDE BARS. J. B. Lancashire. Hosiery Trade J. 67: 88-90 (Nov. 1960).
Fabric possibilities and end-uses are explored. (118)

KOVO FOUR-FEEDER SEAMLESS HOSE MACHINE. Hosiery Trade J. 67: 107 (Dec. 1960).
There are no heel or toe pouches in the stockings producible on the J4Da. Each one is knitted separately, has an inturned welt with graduated stiffening at the calf, and can be spliced at the heel position, along the foot bottom, and in the toe part, if desired. Features are briefly noted. (119)

DEVELOPMENT IN THE DESIGN OF DOUBLE CYLINDER HOSIERY MACHINES. F. E. Deans and G. A. Buswell (Bentley Eng. Co. Ltd). Hosiery Trade J. 67: 93-97, 147 (Nov. 1960).
Steps in the design and production of double cylinder machines, procedure as regards patent protection, and some of the chief steps forward in invention over the past 65 years are discussed. (120)

SUPER GARANT LACE RASCHEL WARP KNITTING MACHINE. Karl Mayer GmbH. Textile Weekly 60 (2): 1018, 1021-1022 (Oct. 28, 1960).
The advantages of the machine and the types of designs possible with it are briefly noted. (121)

Fabrics C4

DESIGNS ON SATEEN FABRICS. R. Sansone. Textile Weekly 60 (2): 1315 (Dec. 2, 1960). (122)

POLYESTERS AND MODIFIED RAYONS IN LIGHT-WEIGHT FABRICS. J. H. Anderer (Am. Viscose Corp.). Modern Textiles Mag. 41: 54-60 (Dec. 1960).
The performance characteristics of Dacron blends with cotton, regular rayon, high strength rayon (Avron, Narcon), high wet modulus rayon (Avril, Zantrel, Moynel), cross-linked rayon (Topel, Corval) and cellular rayon (Avlin) are compared with Dacron/cotton blended fabrics. (123)

FIBER-BLEND CHART-1961. Textile World 110: 39-50 (Dec. 1960).
Typical blends, the fabrics and applications these blends are used for, and the basic production procedures used to manufacture and finish these materials are tabulated. Reprints are available from Textile World, 330 W. 42nd St., New York 36, N.Y. at $1.00 each for 1-25 copies, 75¢ for 26-50 copies, 60¢ for more than 50 copies. (124)

FINE GAGE TUFTING MACHINE. Brit. Tufting Machy. Ltd. Textile Merc. 143: 729-730 (Nov. 25, 1960).
The twin-nip triple roller feed on the 1/8-gage cut pile B.T.M. tufting machines is described. (125)

NEW METHODS FOR THE MANUFACTURE OF NON-WOVEN TEXTILES. J. Dvorak. Melliand 41, No. 4: 260, 262 (1960).
The principle and technique of manufacturing nonwoven fabrics on the Arachne warp knitting machine are described. (126)

NONWOVEN FABRIC MANUFACTURE. J. S. Barke (Barke Machy. Ltd). Textile Weekly 60 (2): 952-955, 962 (Oct. 21, 1960).
The development of modern nonwoven fabrics and the main production methods used in their manufacture are outlined. (127)

MARKET FOR GIRLS' DRESSES AND BOYS' AND GIRLS' SOCKS. J. R. Hall and E. A. Rawes. Nylon Outlook 3, No. 2: 34-45 (Autumn 1960).
Results of a consumer research survey undertaken to determine patterns of garment consumption are presented. (128)

STUDY OF STATIC IN RELATION TO THE SOILING OF GARMENTS IN WEAR. J. Lord and W. H. Rees (Shirley Inst.). J. Textile Inst. 51: T419-T428 (Oct. 1960).
Details are given of a study of the generation of electrostatic charges on the collars and cuffs of cotton, Terylene, and Orlon shirts and on the skirt portions of nylon, Terylene, and Tricel underskirts during wear. By comparing parts of the garments treated with an antistatic agent to eliminate electrostatic charges with untreated parts of the garments, the effect of such charges on the soiling of the garments during wear was examined. 3 refs. (129)

FABRIC STRUCTURE AND ANALYSIS. E. F. Cartee and J. C. Hubbard, Jr. Clemson College, School of Textiles, Clemson, S.C. 1960. 126 p. Available from Clemson Book Store, Clemson, S.C. $1.75.
The purpose of this book is to acquaint the student who has a background of the foundation weaves, basic operation of different types of looms, and an elementary knowledge of fabric and yarn calculations, with the mechanics of applying this information to the development of fabrics. (130)

MOTHERS' OPINIONS OF FIBERS IN CHILDREN'S CLOTHES. M. Weidenhamer. U. S. Agri. Mktg. Serv., Washington 25, D.C. Sept. 1960. 37 p. Mktg. research report 429.
Cotton was regarded as the outstanding fiber for children's clothing, according to the opinions expressed by a representative sample of 2,476 mothers who were interviewed in a nationwide study. Among the manmade fibers, nylon was generally the leader. It was almost in equal favor with cotton for girls' dress-up dresses and a strong second choice as the best material for slips. Major findings of the survey are summarized. (131)

MOTHERS' OPINIONS OF FIBERS IN CHILDREN'S CLOTHES. M. Weidenhamer. U. S. Agri. Mktg. Serv., Washington 25, D.C. Sept. 1960. 111 p. Mktg. research report 429, suppl.
A comprehensive collection of data from a nationwide study of the opinions expressed by a representative sample of 2,476 mothers. Gives complete tabulations (including crossbreaks by variables such as family income), the sample design, and the questionnaire used. (132)

ONE-SHOT PROCESS FOR URETHANE FOAMS. G. P. Mack (Metal & Thermit Corp.). Fibres and Plastics 21: 342-343, 345 (Nov. 1960).
The discovery of the high catalytic activity of certain organotin compounds has been the most recent development accelerating tonnage growth of urethane foam production. A one-shot process using organo-tins is described. (133)

SPRAYING REINFORCED PLASTICS. Fibres and Plastics 21: 344-345 (Nov. 1960).
In the fiber-resin spraying process described, cut fibers and one or several resin components are sprayed on to or into molds simultaneously. Spraying conditions and industrial applications of the process are described. (134)

DIMENSIONAL CHANGES AND LOOP STRENGTH OF TERRY FABRICS. J. Ilg. Textil-Praxis 15, No. 8: 820-824 (1960). In German. Through BCIRA 40: 3834 (1960).
Light, medium-weight and heavy terry towel qualities were examined as regards their changes in dimensions, handle, and loop strength after various laundering and drying treatments. It was found that the latent stresses caused in the material during production can only be removed by machine-washing and spin-drying, whereby the three towel qualities examined shrink to a different degree. Spin-drying (without over-drying) imparts to the towel the most pleasant handle. The loop-strength is increased by this washing and drying treatment of new towels about 5 times as compared with the new fabric. (135)

WAFFLE-TYPE CORE MATERIAL FOR SANDWICH CONSTRUCTION. H. A. Perry, Jr. U. S. Naval Ordnance Lab., White Oak, Md. July 7, 1958. 26 p. NAVORD report 6100. Available from Library of Congress, Washington 25, D.C. Photocopy $4.80. PB 147 222.
A fabricated core material is described which consists of a single sheet with symmetrical truncated pyramidal indentations, alike on both sides, resembling the geometry of a waffle. A waffle core of rigid sheet material when bonded between two flat, high strength faces, produces a strong, light-weight structure. Two separate channels exist for the flow of heat-transfer media in the plane of the sheet. 38 refs. (136)

DESIGNING OF PILE FABRICS. CHAPTER 13. VELVETEEN. E. B. Berry. Textile Bull. 86: 64-65 (Dec. 1960).
Typical weaving constructions for various types of velveteen are described and illustrated. (137)

CORDUROYS FROM TERYLENE/COTTON BLENDS. Imp. Chem. Inds. Ltd. Textile Recorder 78: 65 (Nov. 1960).
Terylene/cotton corduroys which are softer in handle, more resistant to creasing and pile deformation, more readily washed and have better dimensional stability than the conventional cotton corduroy have been produced successfully on a commercial scale from yarns cotton spun from 67/73 Terylene/cotton blends. (138)

MAKING MORE OF CUPRO. J. P. Bemberg AG. Skinner's Silk & Rayon Record 34: 1076, 1078-1080 (Nov. 1960).
Various fabrics possible with new cupro yarns are illustrated by swatches. (139)

APPARENT THERMAL DIFFUSIVITY OF FABRICS. J. J. Powers and F. W. Botsch. U.S. Quartermaster Research & Eng. Center, Environmental Protection Research Div., Natick, Mass. Feb. 1960. 18 p. Tech. report EP-126. Available from Library of Congress, Washington 25, D.C. Photocopy $4.80. PB 148 652.
The concept of thermal diffusivity is applied to fabrics and fabric systems in order to provide a parameter for the mathematical analysis of the thermal response of clothing to non-uniform boundary conditions. Particular solutions of the Fourier conduction equation for unidimensional heat flow are discussed for a thick slab of cloth and for a semi-infinite solid composed of fabric layers. Four experimental methods are applied in the determination of the apparent thermal diffusivity of cloth, using boundary step changes and periodic variations in temperature. The apparent thermal diffusivity of blanket cloth was found to be .0225 in.^{2}/min. and that of nylon 66 to be .0030 in.^{2}/min. (140)

FINISHER/WEAVER COLLABORATION. F. W. Thomas (Shirley Inst.). Textile Weekly 60 (2): 1083-1084, 1088 (Nov. 4, 1960); 1136, 1140 (Nov. 11, 1960).
Difficulties met with by the finisher which may result in defects in finished fabrics are discussed. Among the problems cited are: sizing of spun rayons; copper contamination; mildew; faulty selvages; weft bars; reediness; unsuitable fabric structures for napping; and oil stains. (141)

UNTRADITIONAL TEXTILE PRODUCTION. PART 2. INDUSTRIAL FISHNET MANUFACTURE. H. Larsen. Tidsskr. Textiltech. 18, No. 6: 95-100 (1960). In Danish. Through BCIRA 40: 3749 (1960).
Reference is made in particular to the principles and mechanism of a netting machine, and aftertreatments of the net fabric produced. Suitable manmade fiber yarns are listed. (142)

FINISHING D

1960 TECHNICAL MANUAL OF THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLOURISTS. v. 36. P. O. Box 28, Lowell, Mass. 692 p. $7.50.
AATCC organization, research committee reports, test methods, bibliography of 1130 references (with subject index), books (1940-1960), dyestuffs and textile chemical specialties, membership list. (143)

DETERGENTS AND EMULSIFIERS---UP TO DATE, 1960. John W. McCutcheon, Inc., 475 Fifth Ave., New York 17, N.Y. 1960. 127 p. $3.50.
Detergents and emulsifiers are listed with tradename, manufacturer, class and formula, main uses, form, concentration, type, and remarks. (144)

FINISHING OF POLYESTER FIBERS. E. Bobeck. Textil-Praxis (English ed.) No. 3: 135-144 (Oct. 1960).
A general survey of polyester fiber properties is given, with special reference to the different behavior of the newly developed type 64 by du Pont. The bleaching, dyeing, and finishing of polyester fiber products are described. (145)

Chemical processes D1

HYDROGEN PEROXIDE BLEACHING OF COTTON. E. Kornreich. Reply: A. S. Ramadan. (Letters to the editor). J. Textile Inst. 51: T440 (Oct. 1960). (146)

HYDROGEN PEROXIDE BLEACHING OF COTTON. L. Chesner. Reply: A. S. Ramadan. (Letters to the editor). J. Textile Inst. 51: T487-T488 (Nov. 1960). (147)

CIBANONE DYES IN COLORED PIECE BLEACHING. M. Peter (Ciba Ltd). Ciba Rev. 12, No. 139: 39-41 (Aug. 1960).
Cibanone dyes fast to soda boiling, peroxide/hypochlorite bleaching, and chlorite bleaching and, therefore, suitable for yarns used in woven cloth which is bleached in loom-state are listed. (148)

COMBINED APPLICATION OF UVITEX BRANDS IN CHEMICAL BLEACHING. J. Lanter (Ciba Ltd). Ciba Rev. 12, No. 139: 41-42 (Aug. 1960).
The stability of Uvitex brighteners towards various bleaching agents and their affinity towards various fibers are cited to indicate their suitability for combined application in bleaching baths. (149)

NEWER DEVELOPMENTS IN SODIUM CHLORITE BLEACHING. O. Deschler (Farbwerke Hoechst AG). Can. Textile J. 77: 62-68 (Nov. 25, 1960).
Particulars of three different systems of fully continuous open-width bleaching installations now in operation in Europe are given. (150)

CREASE-RESISTING PROCESS: ADDITIVES. J. T. Marsh. Textile Mfr. 86: 449-453 (Nov. 1960).
The use of additives, such as softening agents, emulsion polymers, and silicones to overcome the undesirable side effects of the creaseproofing process are discussed. Pertinent literature references are cited. (151)

PRODUCTION OF KNITTED EASY-CARE WOOL GARMENTS. F. O. Howitt, A. N. Davidson, and G. Smith (Wool Inds. Research Assoc.). (Letter to the editor). J. Textile Inst. 51: P663-P664 (Nov. 1960).
Results of laundering knit garments scoured with Lissapol N after knitting, dyed, and finished on a Hoffman press without the use of a stretcher show that it is possible to make wool knitted garments that will withstand considerable laundering without change of size or shape and no surface rubbing or pilling. 7 refs. (152)

STABILITY OF CIBACRON, CIBACROLAN, AND CIBALAN DYEINGS IN THE MELAFIX II WOOL SHRINKPROOFING PROCESS. W. Bitterli (Ciba Ltd). Ciba Rev. 12, No. 139: 46-48 (Aug. 1960). (153)

SHRINK-RESIST PROCESSES FOR WOOL. PART 2. COMMERCIAL METHODS. Wool Sci. Rev. No. 18: 18-37 (Oct. 1960).
Following a discussion of the general considerations involved in shrinkproofing processes, the following specific methods are described: acid wet chlorination; modified acid chlorination; alkaline wet chlorination; dry gaseous chlorination; Dylan; Lanfix; Tootal; Perzyme; Chlorzyme; and the CSIRO sodium chloride/permanganate method. Resin deposition treatments are briefly mentioned. 25 refs. (154)

POTASSIUM PERMANGANATE IN SHRINK RESIST PROCESSES FOR WOOL. J. A. Somers. Textile Recorder 78: 68-70 (Nov. 1960).
Features of the McPhee process (abstrs. 2792/60 and 2793/60) for shrinkproofing wool by the use of potassium permanganate alone (as opposed to the Dylan process which requires both potassium permanganate and sodium hypochlorite) are discussed. (155)

WOOL CARBONIZING. A. J. Hall. Textile World 110: 76-79 (Dec. 1960).
Up-to-the minute facts on what chemical changes take place in wool that is carbonized and how carbonizing can be done with least damage to the wool itself. (156)

CHLORINE. Ciba Rev. 12, No. 139: 2-35 (Aug. 1960).
Chlorine: a key material, by J. Schroeter, p. 2-4; Discovery of chlorine and beginnings of the chlorine industry, by J. Schroeter, p. 5-12; The story of chlorine down to the present, by J. Schroeter, p. 13-23; Chlorine in dyestuffs chemistry, by K. Menzi, p. 24-30; Industrial chlorine production, by A. Köhl, p. 31-34. 41 refs. (157)

IMPROVED TEXTILE PROPERTIES FROM NEW CHEMICAL STRUCTURES. A. M. Sookne (Harris Research Labs.). Am. Dyestuff Reptr. 49: P890-P896 (Nov. 28, 1960).
The textile chemist in his finishing operations changes the structures of the fibers he handles, and, in a sense, creates new fibers by chemical modification. Some relationships between the chemical structure and useful textile properties of such chemically modified fibers are discussed, with particular reference to wash-wear treatments for cellulosic fibers. New evidence is presented that for some wash-wear treatments the introduction of intermolecular crosslinks is largely responsible for the improved useful properties, and that a very large improvement in utilization of the crosslinking reagent should be possible. 20 refs. (158)

CHEMICAL MECHANISMS IN CHLORINE RETENTION BY RESIN-TREATED COTTON FABRICS. AATCC Piedmont Sect. Am. Dyestuff Reptr. 49: P843-P855 (Nov. 14, 1960).
The program was a study of the chemical reactions involved in the chlorination of cross-linking resins on fabrics and in vitro and of the reactions involved in the decomposition of the chloramides formed. A bibliography on chlorine retention is included. It is divided into the following sections: general studies; tests for chlorine retention and damage; and behavior of specific resins towards chlorine. 69 refs. (159)

CHLORINE RETENTION IN THE MINIMUM-IRON FINISHING OF COTTON FABRICS. W. Rümens, N. Götz, and R. Zeidler (Badische Anilin & Soda-Fabrik AG). Melliand 41, No. 4: 272-280 (1960).
See abstr. 3559/60 and 4436/60. (160)

RESIN FINISHING OF CELLULOSE FIBERS. PART 5. STUDIES ON THE CONDITIONS OF CURING. M. Yajima and K. Arakawa. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 668-672 (1960). In Japanese (English summary). Through BCIRA 40: 3792 (1960).
The temperature and time of curing have much effect on the tensile recovery of (melamine) resin-treated viscose rayon but less effect on tensile strength, elongation, knot strength, bending rigidity and water imbibition. Higher tensile recovery, higher bending rigidity, lower water imbibition, and lower knot strength are always observed with steam curing than with dry curing. (161)

SOME PHYSICAL PROPERTIES OF CHEMICALLY FINISHED VISCOSE RAYON FILAMENT YARNS AND FABRICS. D. H. Morton and C. Beaumont (Courtaulds Ltd). J. Soc. Dyers Colourists 76: 578-583 (Oct. 1960).
The physical properties of viscose rayon filament yarns have been studied before and after treatment with a wide range of resin and formaldehyde finishes applied by normal, as well as unconventional, methods. A general relationship has been observed between the tensile elastic recovery, extensibility, wet initial modulus, and water imbibition of chemically finished rayon yarns. The changes in tensile and other properties are described, and discussed with regard to their influence on resultant fabric properties. The finisher must compromise between improvement in some properties and impairment of others. This balance of yarn properties is unaffected by the type of treatment used, although widely different amounts of the various resins have to be used for similar effects. The choice of finish is governed by factors other than the effect on yarn tensile properties. Examples of such factors are liability to form inter-fiber resin deposits, frictional characteristics, fastness of the finish to various agencies, and fabric aesthetics. 16 refs. (162)

BASIC AND APPLIED ASPECTS OF THE FLAME-PROOFING OF TEXTILES. H. R. Richards (Can. Defence Research Chem. Labs.). Can. Textile J. 77: 68-76 (Dec. 9, 1960).
The author outlines conditions required to render a fabric flame-resistant and some of the methods which theoretically could be used to achieve this goal. Experiments to test some of the theories and to impart flame-resistance to fibers and yarns before they are woven into fabrics are described. Practical application of such finishes and side effects are discussed. 49 refs. (163)

ANTISTATIC FINISHING OF SYNTHETIC FIBERS. H. Frotscher. Z. ges. Textil-Ind. 62, No. 18: 746-750 (1960). In German. Through BCIRA 40: 4008 (1960).
After having briefly dealt with the electrostatic charge in general and having reported a new series of voltages determined for textile fibers, the author points out the difficulties arising from static electricity during processing of synthetic fibers and during wear of textiles made from them. The present development state of permanent antistatic finishes and their effects on the properties of various manmade fiber textiles, as well as some testing methods, are reviewed. (164)

REAGENTS FOR CREASE-RESIST PROCESSING. J. T. Marsh. Textile Recorder 78: 52-54 (Dec. 1960).
The composition and possibilities of various types of reagents, e.g. dichloralkyl and pyridinium compounds, which can react to give direct etherification or alkylation of cellulose are discussed with pertinent literature references. (165)

SILICONES FOR TEXTILES. PART 1. MANUFACTURE. C. Smith (Midland Silicones Ltd). Man-Made Textiles 37: 62, 64-65 (Nov. 1960).
The main reactions by which a linear silicone polymer can be changed into resinous type structures and the properties of the resultant compositions are described. (166)

COMMENTS ON RESIN FINISHING OF COTTON KNITTED GOODS. K. Mamnicki-Manson. Hosiery Trade J. 67: 113-115 (Nov. 1960).
Practical aspects of treating cotton knitgoods to give improved wash and wear properties are discussed. (167)

FA COTTON FABRIC: PRELIMINARY COST STUDY. O. J. McMillan, Jr., K. M. Decossas, A. S. Cooper, Jr., C. Hamalainen, A. L. Murphy, and E. F. Pollard (So. Reg. Research Lab.). Am. Dyestuff Reptr. 49: 839-842 (Nov. 14, 1960).
FA cotton, a chemically modified cotton in which acetyl-groups are introduced into the cellulose molecule, has excellent electrical insulating properties, rot resistance, heat resistance, and flat abrasion resistance. This product may be prepared from cotton in raw stock, yarn, and fabric form. In this cost study only the fabric form having a degree of substitution of 2.0 is considered. Details of the process and hypothetical plants are described by producing this fabric product in 500 yard batches using conventional textile-processing equipment. Investment costs, operating costs, and general expenses are given for plants with annual capacities of from 125 thousand linear yards up to 2.1 million linear yards. 6 refs. (168)

Dyeing and printing D2

REACTIVE DYES. V. F. Borodkin. Tekhnol. Tekstil. Prom. No. 3 (16): 102-105 (1960). In Russian. Through BCIRA 40: 3978 (1960).
Some reactive dyes were obtained, containing a chlorine atom in the aliphatic residue. It is shown that dyes containing a chloroethylsulfamide group have a good fastness to washing (with soap), perspiration, and dry rubbing, and satisfactory wet crocking fastness on cotton and natural silk fabrics. Some of these dyes exhibit excellent light and weather fastness on cotton, Kapron, and wool fabrics. (169)

RELATIONSHIPS BETWEEN THE CHEMICAL CONSTITUTION AND THE DYEING PROPERTIES OF CIBACRON DYES. J. Wegmann. Textil-Praxis 15, No. 8: 829-841 (1960). In German. Through BCIRA 40: 3772 (1960). (170)

IMPROVED FAST, LEVEL DYEING OF NYLON FILAMENT FABRIC. Brit. Nylon Spinners Ltd. Knitted Outerwear Times 29: 36, 84-85 (Dec. 19, 1960).
Recent advances in applying fast dyes to nylon by means of pad dyeing, with dyebath additives, by the Geigy Co. Irgasolvent process, and with reactive disperse dyes are reviewed. (171)

DYEING OF SYNTHETIC FIBERS. PART 9. A. A. Kharkarov and E. E. Starikovich. Tekhnol. Tekstil. Prom. No. 3 (16): 106-112 (1960). In Russian. Through BCIRA 40: 3986 (1960).
Conditions for dyeing Kapron fabric with 1:2-metal-complex dyes were investigated and it was found that, although these dyes give level dyeings with high fastness, they emphasize the fiber irregularity more than acid dyes. Level dyeings can be obtained by using comparatively high dye concentrations (about 2% of the chemically pure dye) for medium and dark shades. The dyes are recommended for polyamide fibers. (172)

PROBLEM OF STREAKINESS DURING DYEING OF POLYAMIDES. H. Egli. Z. ges. Textil-Ind. 62, No. 18: 794-798 (1960). In German. Through BCIRA 40: 3989 (1960).
The use and mechanism of anionic assistants, e.g. Lyogen P (highly-sulfated oil), are discussed, and three dyeing methods (with Lyogen P in the dye liquor, Lyogen-P pretreatment in the presence of acid, and ammonium sulfate, respectively) are described. Especially in the case of acid dyes, level dyeings can be obtained on polyamide fabrics. The 1:2-metal complex dyes (e.g. Lanasyn dyes) give on polyamide fibers very fast dyeings, but the streakiness is greater than with all other anionic dyes; Lyogen P leads also in this case to a noticeable improvement. (173)

IRGA SOLVENT PROCESS. NEW DYEING METHOD FOR POLYAMIDE PIECE GOODS. C. Hobday and G. Siegrist. Textil-Rundschau 15, No. 8: 422-425 (1960). In German. Through BCIRA 40: 3988 (1960).
The new method described for streakless dyeing of nylon is based on the simultaneous use in the dyebath of anionic assistants, e.g. Tinegal BAN (to block during the first dyeing stages the fabric places with higher affinity and to prevent the dye from being selectively absorbed) and of benzyl alcohol at a concentration approaching the saturation limit (35-40 ml/l). This organic solvent acts (probably by forming a film on the fiber surface in which the dye is dissolved at high concentration) as transfer medium for the dye between the aqueous dyebath and the fiber. Good bath exhaustion is thereby attained within a short time and at a low temperature, and the migration and equalizing power of the dye increase considerably. Other advantages of the method are enumerated. For black dyeings, a slightly modified method is used. (174)

THEORETICAL AND PRACTICAL CONSIDERATIONS CONCERNING THE DYEING OF POLYESTER FIBERS BY MEANS OF CARRIERS. P. Rochas. Teinture et Apprets No. 58: 76-86 (June 1960). In French. Through BCIRA 40: 3779 (1960).
In this lecture (delivered in Lyons at the Dyeing and Printing Conference in May, 1960), the author discusses the dyeability of polyester fibers, the effect of molecular dye dimension on penetrability into the fiber, the use of high temperatures, and the effect of dye carriers on the dyeing rate. (175)

COLORATION OF SYNTHETIC FIBERS. S. Blackburn (Imp. Chem. Inds. Ltd). Fibres and Plastics 21: 334-336 (Nov. 1960).
Guide to the application of dyes and auxiliary products in table form. (176)

STRENGTH AND CREASE-RECOVERY OF PROCION-DYED FABRICS. A. G. Chitale and A. Y. Kulkarni (Ahmedabad Textile Ind. Research Assoc.). (Letter to the editor). J. Textile Inst. 51: T484-T486 (Nov. 1960). (177)

SYNTHETIC FIBERS AND THEIR BLENDS IN THE FINISHING PLANT. E. Schönpflug. Textil-Praxis 15, No. 8: 844-850 (1960). In German. Through BCIRA 40: 3778 (1960).
A general survey is made of the possibilities of dyeing fiber blends, and problems of dyeing polyamide and polyester fibers and, especially, their blends with wool and cellulose fibers are discussed. (178)

COPPER AFTERTREATMENT OF DYED SPUN RAYON/WOOL FABRIC BLENDS. B. Mihalek. Chemiefasern 10, No. 8: 511-514 (1960). In German. Through BCIRA 40: 3777 (1960).
Experiments showed that it is of advantage to introduce the dyed fabric into a preheated aftertreatment bath to reduce the duration of the aftertreatment and to obtain better fastness properties than at low temperatures. No dye is thereby removed from the spun rayon fiber, since the complex is formed faster at 100° C than the boiling-off of the dye not yet combined with the copper. (179)

DYEING OF KODEL POLYESTER FIBERS. H. G. Fröhlich. Z. ges. Textil-Ind. 62, No. 16: 650-651 (1960). In German. Through BCIRA 40: 3780 (1960).
Directions are given for the preparation of the fiber and for dyeing it with disperse dyes, alone and in blends with wool and cotton. (180)

DYEING AND FINISHING BLENDS OF WOOL AND DYNEL. F. C. Rippner (Union Carbide Chem. Co.). Am. Dyestuff Reptr. 49: P856-P857 (Nov. 14, 1960).
The development of a practical method for dyeing wool/Dynel blends with milling and cationic dyes, as well as with neutral-dyeing premetalized dyes, is described. (181)

STUDIES ON THE DYEING OF DIFFICULT-DYEING FIBERS. PART 14. FIXATION OF BASIC AND CONDENSATION DYES WITH PHOSPHOMOLYBDIC OR PHOSPHOTUNGSTIC ACID (2). K. Yamada and C. Chinomiya. PART 15. CONDENSATION DYES OF THIOINDOXYL CARBOXYLIC ACIDS-AROMATIC NITROSO COMPOUNDS. K. Yamada. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 653-661 (1960). In Japanese (English summary). Through BCIRA 40: 3784 (1960).
Part 14. The effect of temperature on the absorption of molybdenum or tungsten by Vinylon, nylon 6, or wool, and the chemical structure of the complex acid absorbed by Vinylon or nylon 6 were studied. Part 15. The dyeing of a number of synthetic fibers was studied. (182)

JIG DYEING WITH INTRAMIN DYES ON POLYESTER FABRICS. G. Dierkes and R. Foppe. Melliand 41, No. 4: 266, 268 (1960). (183)

CONTINUOUS DYEING OF WOOL BY MEANS OF AN AQUEOUS TWO-PHASE SYSTEM; COACERVATION AS A NEW CONCEPT IN TEXTILE PROCESSING. R. Casty (Ciba Ltd). Can. Textile J. 77: 47-60 (Nov. 25, 1960).
Following a brief review of continuous wool dyeing systems, a detailed account of the phenomenon of coacervation and its application to wool dyeing is explained. 7 refs. (184)

PAD MANGLE PROCESSES. R. A. Peel. Dyer 124: 773-775 (Nov. 18, 1960).
The basic rules of padding presented in a previous article (abstr. 3593/60) are enlarged upon and pointers on padding of piecegoods are given. (185)

INVESTIGATIONS ON THE MECHANISM OF DYEING POLYAMIDE FIBERS. H. Zollinger (Swiss Federal Inst. Technol.). Dyer 124: 731-732 (Nov. 4 1960).
It is shown that acid dyes are taken up by polyamide fibers by two simultaneous mechanisms: namely by a salt formation of the dye with amino end groups and by a so-called solution mechanism. The relative importance of the two mechanisms is closely related to the tendency of the dye molecules to form aggregates. 4 refs. (186)

DYEING WITH CIBACRON DYES IN CIRCULATING LIQUOR MACHINES. J. Renggli (Ciba Ltd). Ciba Rev. 12, No. 139: 43-45 (Aug. 1960).
Several years' experience in commercial working and detailed investigations into the behavior of Cibacron dyes when applied by the exhaustion process have resulted in the instructions given for the application of Cibacron dyes to cellulose fibers in circulating liquor machines. The dyeing method described gives good results with all types of cellulosic fiber in the form of loose material, slubbing, hanks, and yarn on cheeses and beams. (187)

TESTING OF DYES AND DYEING PROCESSES IN MODERN LABORATORY DYEING EQUIPMENT. J. Hornung and B. Mihalik. Magyar Textiltech. 11, No. 9: 358-360 (1959). In Hungarian. Through BCIRA 40: 3770 (1960).
Laboratory apparatus for dyeing fabrics has been constructed: the sample, fixed on a glass frame, rotates in an enclosed dye tank. The temperature of the bath can be measured and controlled, and chemicals can be added during dyeing. Examples of its use are given. (188)

DANISH TEXTILE MACHINE PRODUCTION. Tidsskr. Textiltech. 18, No. 5: 81-83 (1960). In Danish. Through BCIRA 40: 3767 (1960).
Two machines, a jig (VH-Super) and a universal dyeing apparatus, GRU-type (produced by Vald. Henriksen I/S) are described, with special reference to the speed of the material, tension, and stretching the fabric in width on the jig, and liquid circulation, pressure, automation, heating, and drying on the dyeing apparatus. (189)

COPE: CARD-OPERATED PROCESS-TIMING EQUIPMENT PRIMARILY INTENDED FOR THE CONTROL OF DYEBATHS. I. R. Reynolds (Courtaulds Ltd). J. Soc. Dyers Colourists 76: 584-587 (Oct. 1960).
A dyeing machine may need the following on/off operations performed in a wide variety of timed sequences: water inlet, drain valve, steam, pump motor, dye feed, salt feed, finish feed. COPE provides an automatic control for all these, as well as for dyebath temperature and liquor level. Good reproducibility of shade has been obtained on repeat dyeings using this automatic control. (190)

AUTOMATIC SCREEN PRINTING. F. Perutz (Lendt & Co.). Am. Dyestuff Reptr. 49: P884-P886 (Nov. 28, 1960).
Automatic screen printing is compared with roller printing of quality prints which are not mass produced, in terms of labor costs, color costs, production, and flexibility of operation. The specific features of the Reggiani, Buser, Comerio, Stork, Thorne, Zimmer and Ichinose machines are discussed. The author makes the point that automatic screen printing machines are an integral part of most European roller printers while in the U.S. only some manual screen printers have converted to this automation. (191)

DYEHOUSE HEAT RECOVERY SYSTEM. Freeman, Taylor Machines Ltd. Dyer 124: 813, 815 (Nov. 18, 1960).
The Caloreff heat recovery system offers the dyer a complete installation for heat recovery, at the heart of which is an efficient shell and tube heat exchanger. A diagramatic layout of the system is included. (192)

LABORATORY HIGH TEMPERATURE BEAM DYEING MACHINE. D. A. Garrett, I. E. Haden, and F. R. Smith (Imp. Chem. Inds. Ltd). Textile Merc. 143: 655-659 (Nov. 11, 1960).
The features and operation of the machine (designed by Longclose Eng. Co.) and results obtained with it on a range of different types of Terylene fabrics are covered. (193)

CALCULATION OF THE INITIAL BATH CONCENTRATION FOR NAPHTHANILIDE PAD DYEINGS. Rohner AG. SVF Fachorgan Textilveredlung 15, No. 8: 523-525 (1960). In German. Through BCIRA 40: 3981 (1960).
In order to obtain uniform dyeings (at the piece ends), the concentration of the initial bath must be lower than that of the added liquor. The concentration of the replenishing bath depends upon the squeezing effect and the desired depth of shade and, therefore, cannot be easily determined. The decrease of the initial bath concentration depends upon the substantivity of the naphthanilide, the padding temperature, the impregnating path (from the moment of immersing the fabric until squeezing), and the squeezing effect. The accurate value can be determined only experimentally (see also abstr. 3627/60). (194)

DYEING WITH PIGMENTS BY THE ACRAMIN FKLN PROCESS. F. Molzer. Textil-Praxis (English ed.) No. 3: 123-128 (Oct. 1960).
Acramin FKLN, a very stable emulsion of plastics without solvent, has a better binding power than other binding agents, does not impair the handle or luster of the dyed fabric, and is insensitive to prolonged exposure of the dyeings to light. Applicability of the Acramin FKLN process is discussed, and suitable Acramin dyes (Farbenfabriken Bayer) are listed. (195)

ZIP-FASTENER TAPE DYEING. R. Weber. Z. ges. Textil-Ind. 62, No. 16: 644-647 (1960). In German. Through BCIRA 40: 3773 (1960).
The discontinuous and continuous methods of dyeing cotton zip-fastener tapes are discussed, with reference to the respective equipment. (196)

POTENTIAL USES OF EMULSION THICKENERS IN TEXTILE PRINTING. W. Heinze. Deut. Textiltech. 10, No. 8: 417-423 (1960). In German. Through BCIRA 40: 4004 (1960).
Properties of emulsion thickeners and emulsion printing methods, use and preparation of emulsion thickeners and the dye concentration in dependence of the printing paste volume are discussed, and comparative experiments with copperable dyes and various thickening agents are described. The results confirmed the advantages of using emulsion thickeners for printing with substantive direct dyes and proved that the degree of fixing is satisfactory after short steaming for 6-8 min and that the fastnesses are the same or hardly differ from those attained with longer steaming periods. (197)

MARKING COLORS FOR POLYAMIDES. Z. Bayer. Textil 15, No. 7: 266-267 (1960). In Czech. Through BCIRA 40: 3987 (1960). (198)

NATURE OF CARRIER ACTION. E. Elöd and H. Hendrix. Z. ges. Textil-Ind. 62, No. 18: 750-755 (1960). In German. Through BCIRA 40: 3984 (1960).
The experiments described show that both carrier and disperse dyes affect the inner fiber structure. The actual carrier effect during the dyeing process consists in loosening the fiber structure so as to enable a faster diffusion of the dye. Temporary loosening of the structure takes place at the moment of dye deposition and cannot be rendered visible after the dyeing process. Various carriers, however, produce in the fibers a more or less extensive permanent loosening, which can be identified from the increased elongation and improved dyeability. (199)

CONTINUOUS WASHING OF BACK CLOTHS IN THE ROLLER PRINTING MACHINE. H. Verboom. Melliand 41, No. 4: 280-282 (1960).
The economical advantages of washing the back cloth in a Vibrotex open-width washing machine (Küsters) while in the printing machine are enumerated. (200)

FULLY AUTOMATIC ZIMMER SCREEN PRINTING MACHINE. W. Patek. Melliand 41, No. 4: 268, 270 (1960).
The construction and mechanism of the machine are described with special reference to the novel magnetic roller wiper and the hydropneumatic repeat-advancing system. (201)

INFLUENCE OF SULFONATE GROUP ORIENTATION ON LIGHTFASTNESS OF ACID WOOL DYES. C. H. Giles (Royal Coll. Sci. Technol., Glasgow). (Letter to the editor). J. Soc. Dyers Colourists 76: 587-588 (Oct. 1960). (202)

USE OF COLOR IN COSMETICS. D. F. Anstead (D. F. Anstead Ltd). J. Soc. Dyers Colourists 76: 573-578 (Oct. 1960).
A brief historical introduction to the use of color in cosmetics is followed by a classification of the coloring matters employed. The desirable properties of colorants for use in individual cosmetic products are described, with a summary of the present position of cosmetic color legislation in the United Kingdom, the United States, and Canada. (203)

COMPARISON OF COLORFASTNESS BETWEEN DYED VINYLON AND COTTON FABRICS. PART 3. RUBBING-FASTNESS AND STRESS-STRAIN PROPERTIES OF DYED FIBER WITH DIRECT DYES. K. Fujino, N. Fujimoto, and S. Miyamoto. J. Textile Machy. Soc. Japan 13, No. 8: 578-581 (1960). In Japanese (English summary). Through BCIRA 40: 3839 (1960).
The rubbing fastness is related to the dye affinity, and the effect of direct dyes on the mechanical properties of Vinylon and cotton is the same as that of sorbed water. (204)

Mechanical processes D3

POWER-AND-FREE CONVEYOR SYSTEM. Rapistan-Keystone, Inc. Am. Textile Reptr. 74: 35 (Nov. 24, 1960).
The Power-and-Free Conveyor is essentially a stop-and-go overhead conveyor system and provides a combination of transporting, accumulating, load-spacing, station-selecting, and dispatching operations for industrial processing and warehousing and for service industries. Its features are noted. (205)

SPLICING GLASS FABRICS. Glass Fabrics Finishing Co. Textile Inds. 124: 80-82 (Dec. 1960).
The technique described and illustrated involves a heat-activated bonding film and a new machine that automatically activates the film, reduces downtime, and provides a permanent, thin overlap splice on the web. The entire splicing cycle (including handling and placement of the cloth roll selvage on the splicing machine) is completed in only 10 to 60 sec, depending on weight and thickness of the glass fabric. (206)

WEFT STRAIGHTENERS AND CLOTH CONTROL DEVICES. R. Hünlich. Z. ges. Textil-Ind. 62, No. 16: 641-644 (1960). In German. Through BCIRA 40: 3794 (1960).
Several units and devices for weft-straightening in fabrics are described and illustrated. (207)

PIPES FOR STORAGE OF ROLLED TEXTILE GOODS. Melliand 41, No. 4: 258, 260 (1960).
A storage system using vulcanized fiber pipes 120 cm long and 40 cm in diameter is described. (208)

NEW APPLICATION OF THE ANDREW AUTO-SETTER. Andrew Eng. & Develop. Co. Ltd. Hosiery Trade J. 67: 116 (Nov. 1960).
The recent application of the Andrew Auto-Setter for steaming singles wool and other yarns for the purpose of eliminating twist liveliness to overcome subsequent spirality in knit fabrics is noted. (209)

Drying, setting, conditioning D4

MIGRATION OF NON-SUBSTANTIVE SOLUTES DURING THE DRYING OF TEXTILES. D. Wilson (Courtaulds Ltd). J. Textile Inst. 51: P590-P603 (Oct. 1960).
In many textile processes, fabrics are dried by the application of heat while the water in them contains a solute which has little or no affinity for the fibers. When this occurs, movement of the solute from one area of the fabric to another, or from one surface of the fabric to the other, occurs. Among the many factors which influence this migration are fabric structure, moisture regain, thermal conductivity as a function of regain, method of heating, ease of evaporation and removal of the water vapor, substantivity of the solute for the fabric, and surface tension and viscosity of the solution. This paper presents some experimental results on migration during drying and gives qualitative explanations of them. 7 refs. (210)

GENERAL ASPECTS OF DRYING, PARTICULARLY ON PERFORATED DRUMS. W. Friedel. Melliand 41, No. 4: 290, 292 (1960).
Following a discussion of the general principles of perforated drum dryers, the features of the Fleissner super-suction jet dryer and the Fleissner broad width dryer with direct ventilation and short air circulation are described. (211)

HIGH-SPEED PIN TENTER. Greenbank Eng. Co. Ltd. Textile Merc. 143: 761-762 (Dec. 2, 1960). (212)

FINISHING MACHINERY FOR KNITTED SYNTHETICS. Bruckner (Kurt) Trockentechnik KG. Dyer 124: 803, 805 (Nov. 18, 1960).
A tentering, drying, and heat setting machine for knitted fabrics, employing a new selvage uncurling and pinning apparatus is described, with emphasis on the selvage cutter. (213)

INFRARED DRYING. Globe Woven Belting Co. Textile Inds. 124: 97-100 (Dec. 1960).
The operation and advantages of the infrared drying system of the Globe Woven Belting Co. are described. (214)

FAMATEX HIGH PRODUCTION TENTERS. Famatex GmbH. Dyer 124: 807-809 (Nov. 18, 1960).
Principles, features, and advantages of the Famatex tier tenter system, incorporating opposed air jets, are described. (215)

FUNDAMENTALS AND APPLICATIONS OF THE ELECTROFIXER. H. Aubauer. Melliand 41, No. 4: 284-290 (1960).
The principles of a steamless fixing apparatus are discussed, with references to the devices developed on this basis since 1933. A new type of electrofixer is described in detail, which can be used in continuous open-width desizing, bleaching, dyeing, and printing. (216)

TESTING AND MEASUREMENT E

Fibers E1

AIR-FLOW METHODS FOR MEASURING WOOL FIBER DIAMETER. Wool Sci. Rev. No. 18: 51-70 (Oct. 1960).
The theory behind air-flow methods is discussed briefly and two instruments for measuring mean fiber diameter (I. W. T. O. air-flow apparatus and the Palmer wool fineness meter) are described, together with the Settle aerodynamic method for the rapid measurement of the diameter of single wool fibers. 9 refs. (217)

Yarns E2

CARD WEB CLASSIFYING ELIMINATES NEP COUNTING. G. Guggenheim. Textile Bull. 86: 45-46 (Dec. 1960).
Nep counting can be eliminated entirely by a process of card web classification known as nep evaluation. With this method the continuing production from a specific group of cards can be compared with permanent standards developed from the specific group of cards running comparable raw materials. The preparation of the standards and the mechanics of evaluation are briefly described. (218)

STANDARD VALUES FOR IRREGULARITY IN COTTON SPINNING. Zellweger Ltd. Textile Mfr. 86: 427-431 (Nov. 1960). (219)

APPARATUS FOR THE MEASUREMENT OF THE CRIMP RIGIDITY OF BULKED AND STRETCH YARNS. S. Fitton and P. Stacey (Hosiery & Allied Trades Research Assoc.). (Letter to the editor). J. Textile Inst. 51: T435-T437 (Oct. 1960). (220)

Fabrics E3

WET CREASE-RECOVERY. J. T. Marsh. (Letter to the editor). J. Soc. Dyers Colourists 76: 629-630 (Nov. 1960).
A critique of the anomalous results between dry crease recovery and wet crease recovery by the Monsanto method. (221)

INVESTIGATION OF THE HIGH SPEED IMPACT BEHAVIOR OF FIBROUS MATERIALS. PART 1. DESIGN AND APPARATUS. C. C. Chu, R. J. Coskren, and H. M. Morgan (Fabric Research Labs.). Wright Air Development Div., Wright Patterson Air Force Base, Ohio. Sept. 1960. 33 p. WADD tech. report 60-511.

A high speed impact test machine has been designed, constructed, and calibrated to test parachute components at high rates of loading. It is capable of rupturing materials of up to 10,000 lbs static breaking strength at velocities of from 200 to 750 ft/sec. The impacting force is applied by a free flying missile launched by a gas gun utilizing either nitrogen or helium gas at moderately low pressures. The gun has a bore of 2.5 in. and fires missiles weighing up to 10 lbs. Pertinent data are obtained by means of multiple exposure photography using a multi-microflash lighting source which provides a maximum of 15 separate flashes spaced at predetermined intervals of between 10 and 10,000 microseconds. The resulting photograph records the specimen and the impacting missile before, during, and after the impact. Measurement of the distances between successive exposures yields information such as the breaking strength, the extension to rupture, and the energy absorbed by the specimen. (222)

TEST METHODS FOR EVALUATING SHRINKPROOFED FABRICS. M. J. Reider (M. J. Reider Associates). Can. Textile J. 77: 61-66 (Nov. 11, 1960).

A simple hand milling test for evaluating milling or felting shrinkage in stabilized wool is described and evaluated. (223)

EASE-OF-CARE NYLON SHIRTS: QUALITATIVE METHODS OF TESTING. T. Horseman and Z. M. Sudnik. Nylon Outlook 3, No. 2: 2-8 (Autumn 1960).

The tests described are divided into two sections: the first applies to shirt and interlining fabrics, and in some cases sewing threads; the second to shirt performance trials. Wherever possible, a simplified technique is suggested and the use of expensive laboratory equipment avoided. It is assumed that fabric analysis can be carried out as required. Methods for determining the resistance to soiling of fabrics are mentioned in this article. (224)

WORTH STREET RULES. Effective Apr. 17, 1941 with revisions to Dec. 1, 1960. Assoc. of Cotton Textile Merchants of New York, 40 Worth St., New York 13, N.Y. 1960. 128 p. $2.00.

The standard code of procedure and trade custom applicable to the purchase and sale of cotton textiles and allied lines. (225)

CLOTH TEARING STRENGTH. A. LITERATURE SURVEY. PART 3A (SUPPLEMENT). B. Edberg, L. Sonnerup, and T. Eeg-Olofsson. Medd. TEFO No. 7: 1-6 (1960). In Swedish. Through BCIRA 40: 3833 (1960).

This supplement deals with the paper by Taylor on tensile and tearing strength of cotton cloths (abstr. 1255/59). (226)

PERSPIRATION FASTNESS TESTING OF TEXTILES. C. R. Teichgraber (Domil Ltd). Can. Textile J. 77: 61-67 (Dec. 9, 1960).

This paper presents a condensed history of the chemical and mechanical principles involved in testing the fastness to perspiration of dyed and printed textiles. It expresses some of the thoughts of both the Canadian and American committees working on a revision of a method to relate laboratory test methods more closely with actual wear conditions. 8 refs. (227)

Other E4

REPORT OF THE STANDARDIZATION COMMITTEE FOR TEXTILE TESTING. Danish Standardization Coun. Tidsskr. Textiltech. 18, No. 7/8: 119-123 (1960). In Danish. Through BCIRA 40: 3840 (1960).

The standardization proposals concern the determination of the drycleaning fastness (S 89.33) and washfastness (DS 936) of dyeings (the latter is a second revised issue). (228)

FASTNESS TO HEAT TREATMENTS OF DISPERSE DYES APPLIED TO SYNTHETIC FIBERS. J.-P. Merminod. Teintex 25, No. 8: 551-563 (1960). In French. Through BCIRA 40: 3841 (1960).

In this review the author discusses various methods for determining the fastness of dyes to heat treatments, with special reference to the test proposed by the French Textile Institute for determining the fastness to sublimation by using the Thermotest apparatus (developed by the Soc. Rhodiaceta) and to the modified test for determining the fastness to steaming under pressure, based on the AATCC Tentative Test Method 31-58. 19 refs. (229)

MEASUREMENT OF MOISTURE REGAIN IN WORSTED YARNS AND FABRICS. S. L. Anderson and G. E. Settle (Wool Inds. Research Assoc.). Textile Recorder 78: 48-49, 54 (Dec. 1960).

The methods of moisture regain measurement discussed include direct drying, rapid drying, and the resistance and capacitance-type electrical systems. (230)

SUGGESTION FOR NEW LIGHT STANDARDS AND THEIR PREPARATION. H. Luttringhaus (Carbic-Hoechst Corp.). Am. Dyestuff Reptr. 49: 880-882 (Nov. 28, 1960).

New standards which can be prepared by any reliable laboratory, or if it should be preferable, can be dyed in a simple way by any piece dye house under AATCC supervision are proposed. (231)

AUTORADIOGRAPHIC METHOD BASED ON TRITIUM FOR LOCATING RESIN FINISH IN TEXTILES. G. S. Park (Courtaulds Ltd). J. Soc. Dyers Colourists 76: 624-629 (Nov. 1960).

The preparation of tritium-labeled formaldehyde and its use for the autoradiographic determination of the distribution of urea-formaldehyde resin finish in textiles are described. The resin is found to be uniformly distributed in any filament cross-section with no resin layer on the surfaces, except in certain unusual cases. The distribution of resin across fabric sections is consistent with migration occurring during drying to those regions where drying is the most rapid. The results of some unusual methods of treatment are given. Resin distribution in a blended fabric has been determined. The autoradiographic method and a staining method for the determination of resin distribution are compared. 14 refs. (232)

MEASUREMENT BY THE OPAL-GLASS METHOD OF ABSORPTION SPECTRA OF DYE ADSORBED ON FABRICS. T. Tachibana and M. Okuda (Ochanomizu Univ.). (Letter to the editor). J. Soc. Dyers Colourists 76: 588 (Oct. 1960). (233)

DETERMINATION OF OILS, FATS, AND WAXES IN WOOL. J. Textile Inst. 51: P657-P660 (Nov. 1960).

Tentative textile standard no. 64. (234)

DETERMINATION OF OILS, FATS, AND WAXES IN COTTON. J. Textile Inst. 51: P660-P662 (Nov. 1960).
Tentative textile standard no. 65. (235)

TESTS FOR CHLORINE FASTNESS. E. Brunnschweiler (Ciba Ltd). Ciba Rev. 12, No. 139: 37-39 (Aug. 1960).
The purpose and scope, as well as the actual procedures of tests for the principal types of chlorine fastness, are outlined. (236)

DETECTION OF PROTEIN-CONTAINING SIZING AND FINISHING AGENTS ON FIBERS. A. Agster (German Research Inst. Textile Ind.). Textil-Praxis (English ed.) No. 3: 129-134 (Oct. 1960).
The most important and most used qualitative protein reactions (xantho-protein reaction, detection by means of Millons' reagent, biuret reaction, ninhydrin reaction, and staining with acid dyes) are described, and directions are given for carrying out a new identification test by using the chloramine/benzidine (blue color) reaction. This method can also be used for quantitative determinations by using for comparison fiber samples with known protein contents. (237)

SIMPLE METHOD FOR DETERMINATION OF THE CHEMICAL CONCENTRATION IN STANDING WASH BATHS. A. Freyberg. Melliand 41, No. 4: 262-266 (1960).
A mathematical method which permits a precise predetermination of the mixture in a washing bath at any particular time is explained. (238)

MILL MANAGEMENT F

EMPLOYEE ATTITUDE SURVEY. R. G. Frost. Textile World 110: 32-37 (Dec. 1960).
The ways in which attitude surveys serve to locate and help correct employee/employer difficulties are examined. (239)

STOCK CYCLE IN TEXTILES. A. C. Wild (Fine Spinners & Doublers Ltd). Textile Weekly 60 (2): 1086, 1088 (Nov. 4, 1960).
The causes of the periodic fluctuation in the rate of production and activity in the textile industry (known as the stock cycle) are examined, and suggestions are made as to what action can be taken to minimize its effects. (240)

U.K. COTTON TEXTILE INDUSTRY: SOME THOUGHTS ON REEQUIPMENT. A. Ormerod (Ashton Bros. & Co. Ltd). Textile Weekly 60 (2): 949-951 (Oct. 21, 1960); 1027-1030 (Oct. 28, 1960).
Factors in changing over to automatic and shuttleless looms are discussed. (241)

Industrial engineering F1

ACTIVITY SAMPLING: A TOOL FOR MANAGEMENT. R. R. Atkinson. Textile Recorder 78: 66, 70 (Nov. 1960).
The activity sampling or ratio delay system developed by L. H. C. Tippett is a technique for making random observations of machines or operatives over a sufficient length of time to build up a picture of the relative amount of time spent on each function. Its advantages are cited. (242)

BALANCING PRODUCTION WITH FINAL OFFTAKE. Textile Weekly 60 (2): 932-941 (Oct. 21, 1960).
Summaries of papers presented at the Cotton Board Harrogate Conference, Oct. 15, 1960: Merchant converting, by F. E. F. Spiegelberg, p. 932-933; Finishing, by W. Crossley, p. 933-935; Weaving, by A. Draper, p. 935-938; Spinning, by F. Napper, p. 938-941. (243)

IMPLICATIONS OF SHIFTWORK. Textile Weekly 60 (2): 1187-1188 (Nov. 18, 1960).
Problems of machinery utilization, by W. G. Doidge, p. 1187-1188; Social problems, by P. E. Blake, p. 1188. (244)

MECHANICS FOR TEXTILE STUDENTS. W A. Hanton. The Textile Institute, 10 Blackfriars St., Manchester 3, England. 1954. 336 p. $4.20.
Reprinted. Part 1 (Study of movement) was published previously in 1940 and parts 2 (Statics) and 3 (Applications of force in causing motion), in 1954. (245)

REFERENCE TABLES FOR OPTIMUM QUALITY CONTROL TESTING. PART 3. CONTROL OF LOOM STOPS AND ENDS DOWN. N. L. Enrick (Inst. Textile Technol.). Modern Textiles Mag. 41: 26-28 (Dec. 1960).
The use of a formula for determining the number of observations required for ends down testing and a table for determining the number of tests required for control of variation coefficients is explained. 5 refs. (246)

Plant and equipment F2

OILS AND FATS IN THE TEXTILE INDUSTRY. H. Schmidt. Textil-Praxis 15, No. 8: 858-860 (1960). In German. Through BCIRA 40: 3850 (1960).
Important properties of a good lubricating oil are discussed, especially: correct viscosity, good lubricating ability, high aging resistance, good adhesiveness, and resistance to oxidation. (247)

SUNDERLAND LOOSE BOSS ROLLER OILER. Textile Weekly 60 (2): 1132 (Nov. 11, 1960). (248)

GOODS LIFT IN TEXTILE MILLS. A. Buckley (Keighley Lifts Ltd). Textile Merc. 143: 772-773 (Dec. 2, 1960).
The requirements of lifts in the textile industry are noted and the features of the Oleomatic multipurpose hydraulic lift, designed on the basis of these requirements, are noted. (249)

ECONOMICAL STEAM SUPPLY. K. G. Rüsse. Melliand 41, No. 4: 294, 296 (1960).
The advantages of steam generators over conventional boiler systems are cited, and the two types of steam generators (continuous flow and forced recirculation) are described. (250)

IMPROVED DRIVE FOR HIGH SPEED MACHINERY. Ira Stephens Ltd. Skinner's Silk & Rayon Record 34: 1091 (Nov. 1960).
In the Miraclo range of flat transmission belts, a driving face of chrome tanned leather, giving a frictional coefficient between 0.6 and 0.8, is bonded to a tension member composed of one or more laminations of highly orientated, strong, flexible nylon ribbon. The characteristics of these belts are noted. (251)

DIRECT GAS- AND OIL-FIRED AIR HEATERS IN THE TEXTILE INDUSTRY. K.-G. Müller. Chemiefasern 10, No. 8: 514-522 (1960). In German. Through BCIRA 40: 3851 (1960).
The construction, uses and advantages of these central air heaters with direct heat transfer from the hot waste gases to the circulating air current are discussed. Owing to the spontaneous heat emission, such units are very quickly ready for operation so that very brief heating and drying times are attainable at a favorable fuel utilization. (252)

BRITISH AND CONTINENTAL MACHINERY: REVIEW OF RECENT DEVELOPMENTS. Textile Recorder 78: 71-113 (Nov. 1960).
Spinning machinery for cotton and short staple man-made fibers, by A. Cross, p. 71-75; Modern woolen and worsted spinning machinery, p. 75-77; Manmade fiber processing machinery, by G. R. Wray, p. 77-80; Modern machinery for winding, doubling, and yarn preparation, p. 81-83; Current and future trends in weaving machinery, by V. Duxbury, p. 84-85; Developments in machinery for carpet production, by A. Crossland, p. 93-97; Recent trends in knitting machinery, by J. B. Lancashire, p. 97-103; Recent developments in dyeing and finishing machinery, by A. J. Hall, p. 103, 112-113. (253)

SCIENCES G

Chemistry G1

SORPTION OF WATER BY CELLULOSE AND EIGHT OTHER TEXTILE POLYMERS. PART 2. SORPTION OF WATER VAPOR BELOW 100° C BY TEXTILE POLYMERS OTHER THAN CELLULOSE. R. Jeffries (Brit. Rayon Research Assoc.). J. Textile Inst. 51: T399-T418 (Oct. 1960).
Detailed results are presented on the absorption and desorption of water vapor (0-100% rh, 30° -90° C) by cellulose triacetate, secondary cellulose acetate, ethyl cellulose, drawn nylon 6.6 yarn, Terylene, Orlon, wool, and Fibrolane. The sorption characteristics of the samples were stabilized prior to the sorption measurements by means of several absorption-desorption cycles at 90° C. The sorption results are analyzed, discussed, and compared where possible with the results of previous workers. The isoteric heats and entropies of sorption are derived and discussed briefly. 50 refs. (254)

SORPTION OF WATER BY CELLULOSE AND EIGHT OTHER TEXTILE POLYMERS. PART 3. SORPTION OF WATER VAPOR BY TEXTILE POLYMERS AT 120° C AND 150° C. R. Jeffries (Brit. Rayon Research Assoc.). J. Textile Inst. 51: T441-T457 (Nov. 1960).
Data on the absorption of water vapor (0-100% rh) at 120° C and 150° C are presented and analyzed for cotton, viscose, cellulose triacetate, secondary cellulose acetate, drawn nylon 6.6 yarn and Terylene. 32 refs. (255)

SOVIET RESEARCH ON THE SWELLING OF CELLULOIC MATERIALS 1949-1956. In English translation. 1960. 262 p. Available from Consultants Bureau Enterprises, Inc., 227 W. 17 St., New York 11, N.Y. $25.00.
46 translated papers are grouped under the headings (1) basic science, (2) chemical effects, (3) industrial considerations, and (4) techniques. (256)

STUDIES ON ACRYLIC FIBERS. PART 14. MEASUREMENT OF CRYSTALLINITIES OF DRAWN FILAMENTS BY X-RAY DIFFRACTION INVESTIGATIONS. M. Takahashi and Y. Nukushina. J. Soc. Textile Cellulose Inds. Japan 16, No. 8: 622-627 (1960). In Japanese (English summary). Through BCIRA 40: 3692 (1960).
The intensity distribution curves of x-ray diffractions along lines radiating from the center of the photograph at definite angles to the equator for various drawn filaments were measured by apparatus of the Geiger-counter type. As the content of the copolymerized component in acrylonitrile copolymers increased, the crystallinity became lower; as the heat treatment temperature of polyacrylonitrile became higher, the crystallinity and the lateral order increased. (257)

MISCELLANY H

ENCYCLOPEDIA OF TEXTILES. Am. Fabrics Magazine. Prentice-Hall, Inc., Englewood Cliffs, N.J. 1960. 702 p. Available from Am. Fabrics, 152 E. 40 St., New York 16, N.Y. $39.50.
This encyclopedia is divided into eight sections: man-made fibers, natural fibers, history and origins of textiles, textile design, the manufacturing processes, fabric finishing, specialty uses of textiles, and textile definitions. Extensive illustrations. (258)

RETAIL EXECUTIVES' GUIDE TO FIBERS, FABRICS, AND FINISHES. Dow Corning Corp., Midland, Mich. 1960. 45 p. 25¢. (259)

PHILIPPINES TEXTILE INDUSTRY: ITS DEVELOPMENT. Platts Bull. 9, No. 11: 354-360 (1960). (260)

TEXTILE AND ENGINEERING DIARY FOR INDIA AND PAKISTAN, 1961. John Worrall Ltd, Central Works, Oldham, England. 1960. 534 p. $6.95 approx.
Directory of mills, buyer's guide, tables for textile calculations, guide to trade associations and organizations. (261)

PROBLEMS FACING THE BRITISH COTTON INDUSTRY. W. T. Winterbottom (Fine Spinners & Doublers Ltd). J. Textile Inst. 51: P603-P611 (Oct. 1960). (262)

TEXTILE INDUSTRY LOOKS AHEAD. I. Blunt (Am. Cotton Mfrs. Assoc.). Am. Dyestuff Reptr. 49: P887-P889 (Nov. 28, 1960). (263)

TRENDS OF CHANGE IN THE LINEN INDUSTRY. S. A. G. Caldwell. Textile Weekly 60 (2): 1243-1244, 1276 (Nov. 25, 1960). (264)

OPEN DAY AT B.C.I.R.A. Textile Weekly 60 (2): 945-946 (Oct. 21, 1960). Textile Recorder 78: 50-51 (Dec. 1960).
Highlights of the exhibit include: Shirley-N.R.D.C. lap weight regulator; BCIRA beam tension regulator; and self brushing device for tape frames. (265)

INTERNATIONAL SYMPOSIUM ON "THE PRODUCTION AND USE OF TEXTURED YARNS FROM SYNTHETIC FIBERS", PRAGUE. Man-Made Textiles 37: 40-49 (Nov. 1960).
Comprehensive report of leading papers. (266)

PATENT CHECKLIST

U.S. patents may be obtained from the U.S. Patent Office, Washington 25, D.C., for 25¢ a copy. Photostatic copies of foreign patents are also available. Charges for these photostats are based on the number of pages in the patent.

FIBERS A

Manmade fibers A2

PROCESS OF PRODUCING ALL SKIN VISCOSE RAYON. J. A. Howsmon (to Am. Viscose Corp.). USP 2 961 289, Nov. 22, 1960.
The use of alkali-soluble polyoxyalkylene glycol ethers of higher primary aliphatic alcohols in the spinning solution is claimed. (267)

METHOD OF PREPARING ALL SKIN VISCOSE RAYON. M. R. Lytton (to Am. Viscose Corp.). USP 2 961 329, Nov. 22, 1960.
The use of alkali-soluble alkylene oxide adducts of N-fatty alkyl alanine in the spinning solution is claimed. (268)

YARN PRODUCTION B

PROCESS FOR CRIMPING FILAMENTS. H. J. Lewis (to Brit. Nylon Spinners Ltd). BP 839 393, June 29, 1960. Through BCIRA 40: 3730 (1960).
An edge crimping process for nylon filaments and the like includes the step of running the heated filament (e.g. at 150° C) over a taut wire or filament so that it is bent through an angle of at least 170°. (269)

NONSLIP TREATMENT OF TEXTILES. J. Payne and I. W. Preston (to Monsanto Chem. Ltd). BP 840 372, July 6, 1960. Through BCIRA 40: 3934 (1960).
Loose fiber (especially wool and its blends) is treated with a textile oil containing colloidally dispersed silica. (270)

MEANS FOR PRODUCING YARNS FROM WOOL, COTTON WASTE, AND RAYON STAPLE FIBER. W. Kay (to Associated Weavers Ltd). BP 841 224, July 13, 1960. Through BCIRA 40: 3943 (1960).
The material is carded and the slivers are passed directly to a drafting system that simultaneously imparts false twist. The drafted slivers are then fed into a spinning pot (of the Prince-Smith type) and the yarn is automatically doffed by inserting a doffing bobbin. On cessation of the drafting and spinning steps a reserve loop is formed in each undrafted sliver to compensate for the differences in the times taken by the carding section and the spinning section to accelerate to their full speeds. (271)

PROCESS FOR PRODUCING SPONTANEOUSLY CRIMPABLE POLYAMIDE YARN DURING WET SPINNING. J. F. Bowling (to E. I. du Pont de Nemours & Co.). USP 2 957 747, Oct. 25, 1960. (272)

STUFFER CRIMPING APPARATUS. E. H. Shattuck (to Joseph Bancroft & Sons Co.). USP 2 960 730, Nov. 22, 1960.
Mechanism for maintaining a constant pressure on the mass of crimped material in the crimping chamber. (273)

HEATING DEVICE FOR THERMAL PROCESSING OF THERMOPLASTIC OR THERMOSETTING YARN. R. S. Gilchrist, E. P. Scragg, and D. A. E. Mattingly (to Klinger Mfg. Co. and Ernest Scragg & Sons Ltd). USP 2 958 921, Nov. 8, 1960.
Apparatus comprising a hollow body having a smooth surface over which the yarn may be continuously drawn, means for circulating fluid through the hollow body, means for heating the fluid, and a thermostat for controlling the heating means. (274)

FALSE TWIST CRIMPING DEVICE. H. Richter (Germany). USP 2 959 906, Nov. 15, 1960. (275)

STUFFER CRIMPING APPARATUS. C. J. Russo, A. L. Trifunovic, and H. A. Sinski (to Joseph Bancroft & Sons Co.). USP 2 960 729, Nov. 22, 1960.
Mechanism for packaging the mass of crimped fibers as they are discharged from the stuffer box and for maintaining the mass in compacted form during the setting and processing stages. (276)

METHOD FOR PRODUCING A CRIMPED TOW OF POLYACRYLONITRILE. M. Sonnino (to Am. Cyanamid Co.). USP 2 960 752, Nov. 22, 1960. (277)

TOW JOINING METHOD. L. F. Thomas (to E. I. du Pont de Nemours & Co.). USP 2 961 738, Nov. 29, 1960.
Tow line ends are connected without the formation of twists or foldovers by stitching overlapping ends together with a chain stitch which can be readily unravelled. (278)

Opening, picking, fiber preparation B1

AIR CURRENT REGULATION AND DUST REMOVAL IN A COTTON OPENER AND PICKER. K. Aoki and A. Aoki (to Daiwa Spinning Co. Ltd). BP 841 227, July 13, 1960. Summary in BCIRA 40: 3935 (1960). (279)

Carding and combing B2

AIR OPERATED DOFFING PROCESS AND APPARATUS FOR A CARDING MACHINE. K. Kawashima (Japan). BP 840 245, July 6, 1960. Through BCIRA 40: 3937 (1960).
Fiber is doffed by a worker roller and carried away from this by an adjacent suction roller above which is a roller that forwards the web to a pair of sliver-forming calender rollers. Inside the suction roller is a closely-fitting tube that confines the suction to the region where the worker-doffer and the suction roller are nearest and shuts it off in the region of the top roller. (280)

STOP MOTION FOR CARDING MACHINES. J. C. Hogg, Jr., R. L. Taylor, and R. L. Pfaff (to West Point Mfg. Co.). USP 2 960 731, Nov. 22, 1960. (281)

APPARATUS FOR CLEANING CLOTHING OF CARDING CYLINDERS. T. Sakanoue. BP 840 591, July 6, 1960. Through BCIRA 40: 3939 (1960).
A suction nozzle is reciprocated along the slot between stationary cover plates overlying the card cylinder, effective sealing being provided by a flexible cover band through which the nozzle travels, the band rolling up or unrolling during the travel. (282)

FLAT-STRIPPING APPARATUS FOR CARDS. J. J. Rieter & Cie AG. BP 841 363, July 13, 1960. Through BCIRA 40: 3938 (1960).
A cylindrical flat-stripping brush is moved by a swinging frame so that the tips of the wires pass through cycloidal paths, the lowest points of the paths coming between the bottom of the flat and the plane of the bends in the wires, the ascending portions of the paths conforming with the inclination of the wires between the bends and the tips, and a part between the ascending and descending portions of the paths being parallel to the bottom of the flat. (283)

TREATMENT OF COTTON FIBERS IN CARDING MACHINES. A. Varga (to Carding Specialists (Canada) Ltd). BP 841 391, July 13, 1960. Through BCIRA 40: 3936 (1960).
The card web is passed through a pair of calendering rollers between the doffer and the drawing-off rollers. The smooth, ironed fibers are claimed to draft better, with fewer neps. (284)

APPARATUS FOR GRINDING THE BEARING SURFACES OF CARD FLATS. A. M. A. Freitag (to Soc. en Commandite par Actions). USP 2 958 265, Nov. 1, 1960. (285)

CARDING MACHINERY. M. Asti and J. Cavedon, Jr. (to Falls Yarn Mills). USP 2 959 824, Nov. 15, 1960.
Means for returning loose fibers or fly to the card hopper for reprocessing. (286)

Drawing and roving B3

DRAFTING APPARATUS. B. Cecchi (Italy). BP 839 699, June 29, 1960. Through BCIRA 40: 3726 (1960).
An apparatus for inserting false twist in a roving as it is being drafted comprises two lengths of endless belt running side by side at equal speeds but in opposite directions transverse to and on opposite sides of the roving as it passes from the first to the second pair of drafting rollers. The distance between the belts is adjusted in accordance with the desired twist and the count of the yarn being spun. (287)

METHOD AND APPARATUS FOR THE MANUFACTURE OF BLENDED SLIVERS. Soc. de Constructions Mecaniques de Stains. BP 841 098, July 13, 1960. (Addition to BP 774 360). Through BCIRA 40: 3940 (1960).
Two tows of continuous filaments are run under tension over the edge of a dihedral member, deflected through about 270°, superposed one on the other in the spread condition, and run through a set of tensioning rollers that cause rupture of the filaments, thus giving a blended product. (288)

APPARATUS FOR SLIVER PACKAGING. J. M. Gould. USP 2 959 825, Nov. 15, 1960. (289)

FLAT CLEARERS FOR DRAFTING ROLLS. J. H. Little and W. A. Mooney (to Dunlop Rubber Co. Ltd). BP 839 362, June 29, 1960. Through BCIRA 40: 3725 (1960).
Foam rubber is spread on a rigid backing and covered with a layer of plain raised fabric or a pile fabric. (290)

REDUCTION OF TORSIONAL OSCILLATION IN ROVING FRAME ROLLERS. J. Locke (to Brit. Rayon Research Assoc.). BP 840 455, July 6, 1960. Through BCIRA 40: 3942 (1960).
Vibrations in long rollers (e.g. speedframe rollers up to 40 ft long) due to stick-slip friction in the bearings are overcome by applying a weighted shoe, disc, electromagnetic, or eddy-current brake at a point or points between the place where the drive is applied and the end of the roller remote from this point. (291)

Spinning, winding, twisting B4

HIGH-DRAFT SPINNING APPARATUS. G. H. Ambler and S. E. Brooks (to Ambler Superdraft Ltd). BP 839 334, June 29, 1960. Through BCIRA 40: 3727 (1960).
The objects of the invention are to drive the small intermediate rollers of the Ambler system at the same peripheral speed as the large back feed rollers and to mount one intermediate roller so that it can be withdrawn from the other for starting and then returned to the driving position. (292)

TAIL-FORMING DEVICE FOR BOBBIN. J. M. Elliott and J. U. Gray (to Courtaulds (Canada) Ltd). BP 839 938, June 29, 1960. Through BCIRA 40: 3728 (1960).
The spindle carries a collar for supporting the bobbin and the collar rests on a flanged member that can be raised or lowered by a push rod, operated by a manual cam, for forming a transfer tail. (293)

BOBBIN HOLDERS. G. Fusaroli (Italy). BP 840 646, July 6, 1960. Through BCIRA 40: 3941 (1960).
A holder for suspending bobbins from creels comprises two main parts, one fixed to a creel board and including a ball-bearing head, and the other (holding the bobbin) being attached or removed by a simple manual action on a spring-biased member that slides along two parallel guides. (294)

APPARATUS FOR THE HIGH-DRAFT SPINNING OF TEXTILE FIBERS. G. H. Ambler and S. E. Brooks (to Ambler Superdraft Co. Ltd). BP 840 938, July 13, 1960. Through BCIRA 40: 3945 (1960).
To ensure that the pair of small intermediate rollers disposed close to the nip of the front drafting rollers in the Ambler single-stage high-draft system do not abstract fibers from the compacted bundle, one roller is made with two flanges (near the mid-point) and the other with one flange that fits between the two flanges. Further, one roller is loaded to press it towards the other and a block of smooth rubber is mounted against each roller to serve as a clearer; one block has a single groove for embracing the single flange and the other block has two grooves for the double-flanged roller. (295)

TENSION DEVICE FOR CORDFORMING MACHINE. L. Seidl (to Am. Enka Corp.). USP 2 958 177, Nov. 1, 1960.
Single spindle cordforming machine which utilizes cooperating pairs of braked rollers for tensioning individual singles being plied together. (296)

APPARATUS FOR THE HIGH DRAFT SPINNING OF TEXTILE FIBERS. G. H. Ambler and S. E. Brooks (to Ambler Superdraft Co. Ltd). BP 840 688, July 6, 1960. Through BCIRA 40: 3944 (1960).
A single-stage, high draft device comprises loaded intermediate rollers disposed close to the nip of a pair of front drafting rollers, and a pair of back rollers for feeding twisted roving. The front rollers rotate 50-100 times as fast as the back rollers. Each intermediate roller is driven from one end by a gear secured by a wire spring to a flat in a peripheral groove on the roller. (297)

DRIVE FOR SPINNING, TWISTING, AND LIKE MACHINES. M. Warnock (to J. & T. Boyd Ltd). BP 841 033, July 13, 1960. Through BCIRA 40: 3946 (1960).
In a machine of the type in which spindles or flyers are driven by an endless belt that presses against the whorls, arrangement for disengaging a spindle or flyer without reducing the driving power on an adjacent one. (298)

TOP DRAFTING ROLL WEIGHTING DEVICE FOR SPINNING MACHINES. W. Naegeli and P. Schwengeler (to J. J. Rieter & Co. Ltd). USP 2 958 102, Nov. 1, 1960.
In a weighting device consisting of an arm swingable on a stationary shaft, a locking pin is provided which is movable in a bore in the arm and in the shaft. When the pin extends into both bores, the arm is locked against rotation; when the pin is retracted from one of the bores, the arm is free to swing. (299)

LOCK MECHANISM FOR TOP DRAFTING ROLL CARRIER IN SPINNING MACHINES. K. Schrotz (to SKF Kugellagerfabriken GmbH). USP 2 958 103, Nov. 1, 1960.
Toggle linkage mechanism which makes it unnecessary to depress the top roll carrier to release the latter for movement to its upper inoperative position. (300)

CREEL STRUCTURE FOR SPINNING FRAMES. L. O. Crawford, S. R. Walsh, and R. L. Snyder (to R. H. Bouligny, Inc.). USP 2 958 479, Nov. 1, 1960.
Creel arrangement which provides for a compact disposition of roving supply bobbins and substantially lowers the creel height so that it is easier to service and provides top storage space. (301)

DOFFING APPARATUS. G. R. Wheeler (to West Point Mfg. Co.). USP 2 958 540, Nov. 1, 1960.
Ambulant but separable combination of a doffing box for empty bobbins and a doffing can for filled bobbins. (302)

TENSIONING DEVICE FOR DOUBLE TWIST SPINDLES. W. Gollos and W. Zander (to Vereinigte Glanzstoff Fabriken AG). USP 2 958 995, Nov. 8, 1960. (303)

LIVE SPINNING SPINDLE WITH SMALL WHIRL DIAMETER. C. M. Neal (to Saco-Lowell Shops). USP 2 959 908, Nov. 15, 1960. (304)

MULTIPOSITION PLYING AND TWISTING APPARATUS. F. A. Preston, N. E. Klein, and E. J. Wright (to Deering Milliken Research Corp.). USP 2 961 823, Nov. 29, 1960.
Symmetrical center drive which permits end to end assembly of any desired number of units and permits the use of short drive belts. (305)

MECHANICAL DOFFING AND DONNING APPARATUS FOR CONTINUOUS SPINNING MACHINES. R. Escursell Prat and J. Hostench Serra (Spain). USP 2 961 822, Nov. 29, 1960. (306)

PLY ACTION SPINDLE FOR INDUSTRIAL CORDS. N. E. Klein (to Deering Milliken Research Corp.). USP 2 961 824, Nov. 29, 1960. (307)

SAFETY DEVICE FOR TWO-FOR-ONE TWISTING MACHINES. N. E. Klein (to Deering Milliken Research Corp.). USP 2 961 825, Nov. 29, 1960.
Prevention of unintended rotation of a bobbin support member. (308)

PLASTIC TRAVELER WITH DUAL WEAR INSERT MEMBERS. L. H. Morin (to Coats & Clark Inc.). USP 2 961 826, Nov. 29, 1960. (309)

Yarns B5

APPARATUS FOR THE PRODUCTION OF BULKY YARNS. H. L. Martyn (to Courtaulds Ltd). BP 839 492 and 839 493, June 29, 1960. Through BCIRA 40: 3731 (1960).
These inventions relate to apparatus for bulking continuous-filament yarns by exposing them to jets of compressed air. Each device consists of a hollow body with air inlet and yarn inlet and outlet tubes. (310)

PROCESS AND APPARATUS FOR THE PRODUCTION OF BEADED FILAMENTS. Moulinage et Retorderie de Chavanoz. BP 840 642, July 6, 1960. Through BCIRA 40: 3947 (1960).
A yarn (cotton, glass fiber, rayon, nylon, etc.) is coated with a viscous solution of a plastisol, dried and run with a plastisol of lower viscosity through a nozzle into an oven at a temperature above 200° C. The second coat contracts into beads as it dries. (311)

YARN-TREATING APPARATUS TO IMPART INCREASED BULKINESS. J. N. Hall (to E. I. du Pont de Nemours & Co.). USP 2 958 112, Nov. 1, 1960.
Nozzle or jet construction adapted to convolute individual filaments of yarn passing through it. (312)

LABELED PLASTIC SEWING THREAD SPOOL. M. Curry (to Am. Thread Co.). USP 2 958 145, Nov. 1, 1960.
The labels are held in place by riveting the ends of the core over the outer sides of the label. (313)

MOLDED PLASTIC SEWING THREAD SPOOL WITH LABEL ATTACHMENT MEANS. L. H. Morin (to Coats & Clark Inc.). USP 2 958 972, Nov. 8, 1960. (314)

SHRINKPROOF SEWING THREAD. W. S. Woodson, Jr. (to Manhattan Shirt Co.). USP 2 959 910, Nov. 15, 1960.
Multiple ply thread composed of highly twisted yarns individually bonded with a removable bonding material. (315)

SUPPLY PACKAGE HOLDER FOR WINDING, TWISTING, AND OTHER TEXTILE APPARATUS. R. L. Seigle. USP 2 961 185, Nov. 22, 1960. (316)

APPARATUS FOR FORMING YARNS AND THREAD INTO PACKAGES. E. Erb (Switzerland). USP 2 958 920, Nov. 8, 1960.
Apparatus for building up packages of yarn by allowing the yarn to fall by gravity into a container, the yarn being distributed in regularly superposed layers by the combined rotational movement of the container and of a thread guide about different vertical axes. (317)

BULKED VISCOSE YARN. A. C. Sutherland and H. H. Penland (to Am. Enka Corp.). USP 2 959 909, Nov. 15, 1960.
Freshly spun, aftertreated and undried, pretwisted continuous multifilament viscose yarn is directed through an air jet while passing a gas stream under pressure through a confined zone in contact with the yarn and changing the direction of the yarn as it emerges from the jet to produce a yarn of unusually high bulk and covering power. (318)

RIMMED, LABELED, PLASTIC SEWING THREAD SPOOLS. L. H. Morin (to Coats & Clark, Inc.). USP 2 961 715 and 2 961 717, Nov. 29, 1960. (319)

APPARATUS FOR MANUFACTURING BONDED FIBROUS GLASS SLIVERS. A. Marzocchi, G. E. Rammel, and C. W. Charon (to Owens-Corning Fiberglas Corp.). USP 2 961 821, Nov. 29, 1960.
Staple glass fibers are blown onto a collecting surface and a binder is applied to the fibers as they are drafted from the collecting surface under tension to form a staple sliver. (320)

WARP BEAM TRANSPORT DEVICE. A. B. Storey and E. A. Bayers (to Celanese Corp.). USP 2 962 167, Nov. 29, 1960. (321)

FABRIC PRODUCTION C

BRAIDING MACHINE BOBBIN CARRIER. E. C. Scanlon. USP 2 960 905, Nov. 22, 1960. (322)

Warping, slashing, yarn preparation C1

UNWINDING APPARATUS. W. Reiners (Germany). BP 839 368, June 29, 1960. Through BCIRA 40: 3750 (1960).
The thread is wound off a stationary bobbin overend with the help of a guide in line with the axis of the bobbin, and the guide is automatically and progressively brought nearer the bobbin in accordance with its diameter so as to maintain minimum thread tension. The control device may include a photoelectric cell. (323)

TENSION ADJUSTING MEANS FOR BEAM WINDING MACHINE. Gebrüder Sucker GmbH. BP 840 380, July 6, 1960. Summary in BCIRA 40: 3962 (1960). (324)

PIRN LOCK APPARATUS. J. P. McNutt III (to E. I. du Pont de Nemours & Co.). USP 2 961 179, Nov. 22, 1960.
Centrifugally actuated apparatus in which the locking action is obtained solely during the relatively rapid rotation of the pirn and is automatically released before the pirn comes to rest. (325)

DEVICE FOR DIVIDING CROSSED WARP THREADS. Zellweger Ltd. BP 839 400, June 29, 1960. Through BCIRA 40: 3752 (1960).
The device includes known means for inserting two lease bands and a known type of dividing pin that bears against the selvage thread and has a lateral notch that can accommodate one thread but no more. Whereas known combinations of these instruments work outside the thread zone defined by the lease bands, the pin in the present arrangement acts on the selvage thread between the lease bands. (326)

WARP BEAM BRAKE. W. Grob (Switzerland). BP 839 675, June 29, 1960. Through BCIRA 40: 3753 (1960).
The invention relates to the use of interchangeable brake bands of different widths, that damp the beam in both directions of rotation. The bands are connected to holders each provided with a stop that is secured against rotation about the beam axis by means of springs or resilient pads. The bands lie on the brake drum and those not in use are slackened. (327)

BOBBIN COLLECTION DEVICE. W. Reiners (Germany). BP 840 961, July 13, 1960. Through BCIRA 40: 3960 (1960).
Apparatus for packing bobbins at a single winding station whereby a predetermined number of bobbins are collected in an intermediate magazine in the order in which they are prepared (a counting device is used) and then transferred to a collecting magazine in a straight row. (328)

REPLACEMENT OF PACKAGES ON WINDING DEVICES. Vereinigte Glanzstoff Fabriken AG. BP 841 032, July 13, 1960. Through BCIRA 40: 3961 (1960).
The invention relates to the replacement of a full package by an empty one without stopping the feed (at constant speed), e.g. in the production of manmade filaments. An auxiliary spindle is used and the yarn is wound on this while the full package is being removed. The tube is then transferred to a working spindle. (329)

SLUB CATCHER. S. L. Abbott (to Abbott Mach. Co.). USP 2 958 922, Nov. 8, 1960.
Slub catcher of the type in which a slub is detected by being deflected laterally of the normal yarn path by means of an inclined blade. (330)

PRODUCTION COUNTER FOR CHEESE WINDING MACHINES. W. B. Chambley. USP 2 961 178, Nov. 22, 1960.
Apparatus for counting and recording the number of bobbins moved into tying position on Barber-Colman type automatic spoolers. (331)

FRAME FOR WARP TYING APPARATUS. A. Altenweger (to Zellweger Ltd). USP 2 961 737, Nov. 29, 1960.
Mechanism which permits the height of the warp tying apparatus to be changed from one end of the frame. (332)

Weaving C2

AUTOMATIC SHUTTLE CHANGE MECHANISM. M. E. Van de Wiele (Belgium). USP 2 962 055, Nov. 29, 1960. (333)

SHUTTLES. W. Holt. BP 839 064, June 29, 1960. Through BCIRA 40: 3754 (1960).
In a shuttle for automatic looms in which the pirn is held by a bifurcated spring member, this member is formed with a tapered bore to receive corresponding locking blocks that engage a recess in the head of the shuttle. (334)

LOOM PICKERS. R. M. Seddon (to Unitex Ltd). BP 839 135, June 29, 1960. Through BCIRA 40: 3755 (1960).
Picker, molded from polyurethane or other plastic, in which the slot for the picking stick is rounded on the leading and trailing faces, in the corners, and at the edges so that the stick can slide and rotate with a minimum of wear of the picker, and the flight of the shuttle is true. (335)

REED FRAMES. C. E. Schmidt (to Schmidt Mfg. Co.). BP 839 588, June 29, 1960. Through BCIRA 40: 3756 (1960).
The dent wires are anchored in the reed frame by an elastic matrix without the use of the spirally wound spring members usually employed. (336)

WEFT-INSERTING NOZZLES FOR LOOMS USING A JET OF COMPRESSED AIR TO PROPEL THE WEFT. NV Machinefabriek L. te Strake. BP 840 200, July 6, 1960. Summary in BCIRA 40: 3964 (1960). (337)

MOUNTING MEANS FOR LOOM WARP STOP MOTION. Metapic SA. BP 840 739, July 13, 1960. Through BCIRA 40: 3965 (1960).
A stop motion of the dropper and rack type is pivoted to two arms which are pivotally mounted at each side of the loom so that the motion can be adjusted, even while the loom is running, by swinging the arms up or down. (338)

SINGLE-CYLINDER, DOUBLE-LIFT JACQUARD. C. T. Dracup and G. Dracup (to S. Dracup & Sons Ltd). BP 840 795, July 13, 1960. Through BCIRA 40: 3963 (1960).
Each hook has two stems and each stem has a single neb for engagement by a corresponding griffe, additional bars or griffes engaging alternatively with the two nebs of each pair of hook stems on alternate picks. (339)

LOOM WARP BEAM BRAKE. W. Grob (Switzerland). USP 2 958 341, Nov. 1, 1960.
Means for rendering the movements of the warp beam caused by the throw of the reed as smooth as possible and to prevent slippage of the brake hand during the throw of the reed. (340)

WEFT REPLENISHING CONTROL. W. E. Kimmel (to Crompton & Knowles Corp.). USP 2 958 342, Nov. 1, 1960.
Mechanism for controlling the setting of a bobbin reserve magazine during certain picks of a 4-pick sequence cycle of loom operation. (341)

THREAD TENSION FOR SELF-THREADING SHUTTLE. A. Cederlund, K. J. Hall, and C. Darwin (to Crompton & Knowles Corp.). USP 2 961 008, Nov. 22, 1960.
Device for causing the first pick of the shuttle after replenishment to have the same tension as subsequent picks. (342)

FLOAT CUTTING APPARATUS FOR LOOMS. F. W. Riddle and S. L. Duffett (to Scotland Mills). USP 2 958 343, Nov. 1, 1960.
Apparatus for automatically severing warp float yarns on the upper face of a fabric while it is being woven. (343)

HAND LOOM HARNESS LIFTING APPARATUS. W. R. Walling. USP 2 960 115, Nov. 15, 1960. (344)

LOOM PATTERN CONTROL DEVICE. H. P. Oldfield. USP 2 960 116, Nov. 15, 1960.
The customary harness pattern and box chains are replaced by continuous, endless pattern control belts of plastic arranged to effect the proper movement of the jacks to raise and lower the harnesses to produce the required shedding of warp ends and lift the desired shuttle boxes. (345)

WEFT INSERTING DEVICE. D. W. Shimwell (to Weaving Research & Textile Comm. Agents Ltd). USP 2 960 117, Nov. 15, 1960.
Reciprocatory spear for traversing a weft yarn from a stationary weft package. (346)

SHUTTLELESS LOOMS. V. M. J. Ancet and M. Fayolle (France). USP 2 960 118, Nov. 15, 1960.
Positively actuated thread gripper for weft needle which pulls the weft from a stationary supply. (347)

WEFT STOP MOTION. F. W. Paul and V. F. Sepavich (to Crompton & Knowles Corp.). USP 2 962 056, Nov. 29, 1960.
Means for automatically reversing the loom to return the lay to its back center position upon stoppage of the loom by a weft fault. (348)

Knitting C3

ACTUATING SLIDE FOR THE NEEDLES OF A HAND KNITTING MACHINE. W. Brăm (to Paliz-Holding AG). USP 2 958 214, Nov. 1, 1960. (349)

CIRCULAR HOSIERY MACHINES OF THE SUPERIMPOSED NEEDLE CYLINDER TYPE. A. P. Saunders (to Wildt & Co. Ltd). USP 2 959 040, Nov. 8, 1960.
The latch guard is modified to facilitate favorable positioning of a yarn guide to feed to the needles a terry yarn for producing cushioned toe and heel pouches. (350)

VARIABLE TORQUE FABRIC TAKEUP FOR KNITTING MACHINES. J. Scheller and W. Ullman (to Firma Gebr. Scheller, Textilmaschinenfabrik). USP 2 959 041, Nov. 8, 1960. (351)

COMBINED KNITTING AND SEWING MACHINE. E. Jetté (Canada). USP 2 959 837, Nov. 15, 1960.
Machine for knitting fabric strips in successive courses and simultaneously sewing predetermined knitted loops of the knitted strip to a base fabric. (352)

SUPPORT FOR EXTRA WIDE FLAT WARP KNITTING MACHINES. A. W. H. Porter (to Hobourn-F. N. F. Ltd). USP 2 959 948, Nov. 15, 1960.
Construction which permits the machine to be supported at only two points on two feet while maintaining the knitting elements in accurate alignment. (353)

MULTI-PATTERN SECTION INLAID HOSIERY. N. Levin (to Textile Mach. Works). USP 2 959 946, Nov. 15, 1960.
Method of knitting an intarsia design on a multifeed circular machine by reciprocatory knitting when the number of pattern sections exceeds the number of feeds so that pairs of courses of adjoining patterns are knit in alternation on the same feed of the machine. (354)

YARN CONTROL MEANS FOR CIRCULAR HOSIERY MACHINES. H. E. Crawford (to H. E. Crawford Co.). USP 2 959 949, Nov. 15, 1960.
Means for moving yarn ends from a position outside the needle cylinder to the interior of the cylinder during patterning. (355)

METHOD OF FORMING HOSIERY FROM TUBE OF KNITTED FABRIC. B. T. R. Reymes-Cole (to Singer-Fidelity, Inc.). USP 2 960 751, Nov. 22, 1960.
The foot end is made by seaming or linking across the width of the fabric, stretching the tube into the shape of a foot, and setting it in that shape. (356)

STITCH LENGTH CONTROL MECHANISM FOR CIRCULAR HOSIERY MACHINE. H. L. Curtis (to Scott & Williams, Inc.). USP 2 960 853, Nov. 22, 1960. (357)

KNITTING MACHINE. F. Eberl (Austria). USP 2 960 854, Nov. 22, 1960.
Mechanism for varying stitch sizes within wide ranges in a machine having at least one needle bed with a row of parallel latch needles operated by a cam box movable on the needle bed transversely to the direction of movement of the needles. (358)

WARP KNIT FLAT ELASTIC FABRIC. S. F. Siciliano (to George C. Moore Co.). USP 2 960 855, Nov. 22, 1960.
In a flat knit power net having laid-in elastic warps and knitted nonelastic yarns binding all the elastic warps together, the elastic warps are doubled in the stitches of certain wales and single in other wales with the doubled warps having more widthwise expansion than the singles. (359)

YARN FEEDING MECHANISM FOR ARGYLE HOSIERY. I. H. C. Green (to Hemphill Co.). USP 2 961 857, Nov. 29, 1960. (360)

YARN FEEDER AND CLAMP AND CUTTER FOR INDEPENDENT NEEDLE KNITTING MACHINES. F. C. Wiesinger (to Wildman Jacquard Co.). USP 2 961 858, Nov. 29, 1960. (361)

RUN-RESISTANT KNITTED STOCKING. S. O. B. Ljungbo (Sweden). USP 2 962 384, Nov. 29, 1960.
An adhesive material is applied in spaced, staggered rows. (362)

Fabrics C4

EMBOSSED NONWOVEN FABRIC. K. H. Barnard (to Chicopee Mfg. Corp.). USP 2 958 608, Nov. 1, 1960.
Embossed fabrics with a soft and full hand made up of smooth, spaced bonded areas separated by unbonded areas which are highly distended and resilient. (363)

ELECTRICAL HEATING ELEMENTS. M. Stephenson (to T. French & Sons Ltd). BP 839 198, June 29, 1960. (Addition to BP 794 186). Through BCIRA 40: 3759 (1960).
A 2-ply tape is woven with pockets containing a zig-zag electric resistance heating element in the central zone. (See abstr. 3540/58). (364)

MANUFACTURE OF FISH NETS. Inventa AG. BP 839 440, June 29, 1960. Through BCIRA 40: 3757 (1960).
Polycaprolactam containing 8-12% of low-molecular fractions is melt-spun into a heavy mineral oil, the monofils are stretched and made into netting, and the knots are fixed by heating at 110-120° C. (365)

MANUFACTURE OF FISH NETS. Inventa AG. BP 839 803, June 29, 1960. Through BCIRA 40: 3758 (1960).
Polycaprolactam monofils of triangular cross-section are used for the manufacture of nets in which the knots are highly resistant to slipping. (366)

BONDED SHEET MATERIALS. E. M. Eurich (to Brit. Visqueen Ltd). BP 839 855, June 29, 1960. Through BCIRA 40: 3760 (1960).
A packaging sheet is made by bonding a fabric of jute and/or hemp containing also plastic yarns, to a sheet of polythene. (367)

FISH NETTING. R. Johnson (to Dominion Textile Co. Ltd). BP 840 616, July 6, 1960. Through BCIRA 40: 3966 (1960).
Fish nets of nylon twine, with tight single knots, are impregnated with a solution of rosin to prevent slip. The solution may also contain an alcohol-soluble nylon. (368)

ELASTIC FABRICS. W. Wade and R. M. Winters, Jr. (to Am. Viscose Corp.). USP 2 957 512, Oct. 25, 1960.
Composite fabric includes one layer of a permeable, reticulated, fibrous web of elastomeric material, e.g. rubber, and a layer of a nonelastic textile fabric. (369)

NEEDLED NONWOVEN BATT. H. G. Lauterbach (to E. I. du Pont de Nemours & Co.). USP 2 958 113, Nov. 1, 1960.
Feltlike article composed of a nonwoven needled layered batt of synthetic filaments in which portions of individual filaments are oriented uniformly throughout the batt in a perpendicular position. (370)

VELVET FABRIC. R. M. Charbin. USP 2 958 344, Nov. 1, 1960.
Method of weaving a double-woven velvet in which the bindings of two opposing, alternating groups of three pile yarns each are woven in and spaced two picks apart and which requires less weft and less ground warp yarns than is usually required to obtain the usual thickness of pile cover. (371)

FLEXIBLE NONWOVEN FABRICS. L. P. Finnegan and V. A. Miller (to Intern. Latex Corp.). USP 2 961 348, Nov. 22, 1960.
Nonwoven sheeting for use in pressure-sensitive adhesive tape backing is given a high degree of internal bonding and tensile strength by impregnation with an acidic copolymer cross-linked with cations of a polyvalent metal. (372)

LOW DENSITY, OPEN STRUCTURE, NONWOVEN SYNTHETIC FIBER SCOURING PADS. H. L. Hoover, E. J. Dupre, and W. J. Rankin (to Minn. Mining & Mfg. Co.). USP 2 958 593, Nov. 1, 1960. (373)

FINISHING D

Chemical processes D1

DECOMPOSITION OF LINEAR POLYESTERS. Farbwerke Hoechst AG. BP 839 371, June 29, 1960. Through BCIRA 40: 3805 (1960).
Materials of the Terylene type are partially or completely decomposed by heating with a cyclic amine, such as cyclohexylamine, pyrrolidine or piperidine, either in steam or in a dilute solution of caustic alkali. The milder treatments result in more silky yarns and fabrics with greater affinity for dyes. Complete hydrolysis is applied in the working up of wastes. (374)

FINISH FOR WASHING AND DRYCLEANING FASTNESS. Ciba Ltd. BP 839 377, June 29, 1960. Through BCIRA 40: 3812 (1960).
Polymers of the acrylate type are heated with hydrazine or hydrazine hydrate whereby some ester groups are replaced by hydrazide groups. (375)

Dyeing and printing D2

DYEING POLYESTERS. Farbwerke Hoechst AG. BP 839 130, June 29, 1960. (Addition to BP 824 269). Through BCIRA 40: 3808 (1960).
Phenyl benzoate, benzyl benzoate, and dibenzyl ether are claimed as carriers in the dyeing of materials of the Terylene type with dispersed acetate and ice colors. (376)

DYEING POLYESTERS. Badische Anilin und Soda Fabrik AG. BP 839 307, June 29, 1960. Through BCIRA 40: 3809 (1960).
Diphenylsulfone and certain of its substitution products are claimed as carriers in the dyeing and printing of materials of the Terylene type by dispersion dyes. (377)

PIGMENT FIXATIVE. H. Bartl, H. Bestian, H. Diery, J. Heyna, and A. Rückert (to Farbwerke Hoechst AG). USP 2 961 349, Nov. 22, 1960. (378)

Mechanical processes D3

ROLLER ASSEMBLIES FOR THE PRESSURE TREATMENT OF MATERIALS. E. Kusters. BP 836 859, June 9, 1960. Through BCIRA 40: 3269 (1960).
To secure uniform distribution of pressure throughout the length of a calender bowl or the like, the roller is floated in a sealed trough that contains a pressure liquid. Sealing along the length and ends of the roller is effected by strips and discs that are pressed against the roller by hydraulic or inflatable means. (379)

MEASURING DEVICE FOR CONTINUOUSLY TRAVELING FABRICS. H. Kabelitz and W. Lennartz (to Gebrüder Sucker GmbH). USP 2 951 293, Sept. 6, 1960. (380)

VELVET RACKS. J. A. Schauster (to Empire Tool & Mfg. Co.). USP 2 956 673, Oct. 18, 1960. (381)

WORKER ROLL BEARING AND SHAFT CONSTRUCTION IN A NAPPER. J. A. Kooistra (to Davis & Furber Mach. Co.). USP 2 951 396, Sept. 6, 1960. (382)

STABILIZED YARN. G. Pitzl (to E. I. du Pont de Nemours & Co.). USP 2 956 330, Oct. 18, 1960.
Freshly drawn nylon filaments are stabilized by continuously treating them with superheated steam, relaxing them to effect a length reduction of 2 to 10%, and winding them in a package. (383)

LAP THICKNESS INDICATOR FOR CALENDERING MACHINES. N. B. Henry (to Aldrich Mach. Works). USP 2 959 863, Nov. 15, 1960. (384)

EXPANDING AND CONTRACTING ROLLS. J. D. Robertson and J. N. Basic (to Mount Hope Machy. Co.). USP 2 960 749, Nov. 22, 1960.
Supporting structure for resiliently flexible surface sleeves on longitudinally curved rolls with fixed or adjustable curvatures. (385)

PROCESSING CYLINDERS FOR PILE FABRICS. A. Hart. USP 2 961 733, Nov. 29, 1960.
Heating cylinders for straightening projecting fibers to produce soft, velvety, or nap surface effects. (386)

DEVICE FOR THE MANUFACTURE OF UNDULATED SHEETS OF TEXTILE MATERIAL. G. Mohring (to Famatex GmbH). USP 2 961 735, Nov. 29, 1960.
Device for automatically producing uniform undulations in a sheet of fabric and for fastening the undulated fabric onto transporting means of a tentering frame. (387)

PHOTOELECTRIC APPARATUS FOR THE CONTACTLESS SCANNING AND CONTROL OF FABRIC EDGE MIGRATION. A. Leimer and L. Zerle (Germany). USP 2 962 596, Nov. 29, 1960. (388)

Drying, setting, conditioning D4

HEAT TREATMENT OF FILAMENTS, FIBERS, THREADS, FILMS, AND SHEET MATERIAL. J. Doleman and W. V. Morgan (to Brit. Rayon Research Assoc.). BP 838 785, June 22, 1960. Through BCIRA 40: 3274 (1960).
The invention is concerned with the problem of the entry of material into a hot fluidized bed for treating small materials such as single filaments or yarns, or small groups thereof. Instead of feeding through the open top of the (cylindrical) container, the wall is provided with a vertical slit so narrow that the bed particles cannot escape. A similar slit may be provided for the exit of the material after passing through the bed. (389)

DRYING CYLINDERS. J. Dilworth. BP 839 058, June 29, 1960. Through BCIRA 40: 3818 (1960).
In a drying cylinder of the type having co-axial inner and outer cylinders, steam under pressure is admitted into the annular space between the cylinders at one end and exhausted at the other end, and the inner cylinder is filled with air or inert gas under pressure to balance the pressure in the annular space. (390)

SELF-CLEANING MACHINE FOR DRYING MOVING FABRIC STRIPS. G. Möhring (to Famatex GmbH). USP 2 951 275, Sept. 6, 1960. (391)